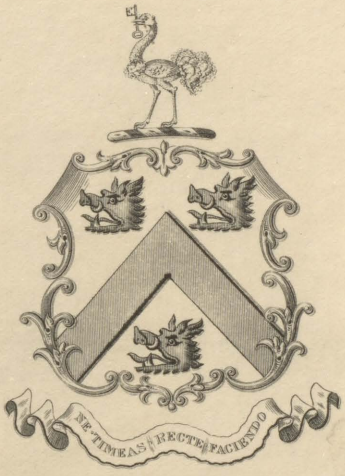
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OLD ROUTES OF WESTERN ĪRĀN

OLD ROUTES OF WESTERN ĪRĀN

NARRATIVE OF AN ARCHAEOLOGICAL JOURNEY CARRIED OUT AND RECORDED

BY

SIR AUREL STEIN, K.C.I.E.

ANTIQUITIES EXAMINED, DESCRIBED AND ILLUSTRATED WITH THE ASSISTANCE OF

FRED H. ANDREWS, O.B.E.



WITH ILLUSTRATIONS, PLATES OF ANTIQUES PLANS AND MAPS FROM ORIGINAL SURVEYS

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TO

SIR EDWARD D. MACLAGAN

K.C.S.I., K.C.I.E.

LATE GOVERNOR OF THE PUNJAB

THE FRIEND WHOSE SYMPATHY AND HELP
ENCOURAGED AND FURTHERED MY EFFORTS
FROM THE START OF MY INDIAN CAREER
THIS RECORD OF EXPLORATORY TRAVEL
IS INSCRIBED
IN GRATEFUL AFFECTION

INTRODUCTION

THE present volume is intended to furnish a record of the last and longest of four journeys which carried me during the years 1932–6 through an extensive belt of Southern and Western Īrān. That belt stretches from the extreme south-east of Persian Balūchistān on the Arabian sea coast close to where the frontier of the present state of Īrān meets the frontiers of Iraq and Turkey in the hills of Kurdistān far away to the north-west. The main aim of all four expeditions had been that of archaeological reconnaissance surveys of whatever remains of antiquity could be traced along the routes which historical and geographical interests induced me to follow.

As on all my preceding travels through Central Asia and along the far-flung north-western borders of India I was guided by regard for these twofold interests. On the one hand archaeology in its essential aspects is meant to serve history, and nowhere is its service of more value than where written records fail us, as is the case for the earliest periods of civilization within particular regions. Hence the remains to be searched for in prehistoric mounds by trial excavations were bound to claim special attention. On the other hand observation of geographical features necessarily imposed itself as supplementing the archaeological task, seeing how closely all historical development has been influenced by them. The latter aspect of the proposed

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survey appealed to me all the more strongly since much of the ground to be visited had so far been but inadequately mapped or had remained altogether unsurveyed.

The travels described in these pages took me in the course of thirteen months, from November 1935 onwards, across six different provinces of Īrān which owing to their historical past or for other reasons offered a field of special attraction to me. My preceding journey, the third, had carried me in 1933–4 through the eastern and major portion of Fārs, that ancient Persis which had given Īrān its greatest dynasties, the Achaemenians and Sasanians, and through the vast expansion of their power had made it under its classical name of Persia famous in the West.

From Shīrāz, the medieval and modern capital of the province, the new journey started. It led through the western hill tracts of Fārs and allowed me definitely to trace the old route which had seen Alexander, after overcoming serious difficulties, force his passage through the ' Persian Gates ' towards Persepolis, the great capital of the Achaemenian Empire. Close examination of the topography of the route was here to prove once again how the scene of a great event if studied on the ground often helps to restore to full clearness a picture which historical record has preserved only in half-effaced outlines. Moving down by the same route it became possible to locate another exploit of Alexander, his defeat of the Uxian hillmen, and to examine a famous mountain stronghold which figures in Tīmūr's story.

In passing through adjacent hill tracts of the Khūzistān province interesting ruins of Sasanian times could be studied and trial excavations carried out at prehistoric

mounds of ancient Susiana, the biblical Elam. The painted pottery brought to light attested close connexion between the prehistoric culture of this region in the fourth millennium B.C. and that traced on previous explorations by abundant finds of similar type from British Balūchistān right through to Fārs. The survey of a series of great bridges, imposing still in their ruins, served to show how important was the trade and traffic which from Sasanian down to early Islamic times, and no doubt before also, had moved from the fertile irrigated plains of Susiana up to the plateaus of central Persia.

In the Bakhtiārī hills, once passed through by such trade routes, but long closed by tribal disorder, a fortunate discovery allowed me to recover remains of interesting bronze sculptures and other antiques from a destroyed shrine of Parthian times. Quite Hellenistic in type they strikingly illustrated how widely Greek art, culture and worship had influenced Īrān after Alexander's conquest. Close examination of hitherto very imperfectly known rock sculptures in the gorge of Tang-i-Sarwak threw light on that reaction of Iranian taste, which was to assert itself later in the sculptural monuments of Sasanian rulers.

From the wide alluvial plain of Khūzistān my route, after a visit to the great site of Susa, took me up into the hill tracts of Lūristān. There the valley of the Saimareh (or Karkheh) river and the succession of plateaus northward which its tributaries higher up drain offered ample scope for archaeological exploration during the spring. Where the rugged high Kabīr-kōh range sends down streams to the fertile alluvial ground along the Saimareh, Sasanian town sites were visited. There and also on the plateaus

farther north numerous ancient mounds invited trial excavations. These conclusively proved by the finds made that this elevated area, which in modern times and for centuries before has on the whole served only for migratory grazing of semi-nomadic Lūr tribes, knew permanent occupation during the last two millennia before Christ if not earlier also. From approximately the same period dated the numerous burial grounds traced which had of late years furnished an abundance of those interesting 'Lūristān bronzes' for the antique markets of the West. They all proved to have been systematically plundered by Lūr searchers. But examination of the remains left behind as of no value provided useful indications as to the origin and approximate date of these much-discussed antiques.

A series of great boldly planned bridges now in ruins spanning the Saimareh and its principal affluent offered special interest by their architectural features and by the inscriptional record which exactly dates them. They supplied striking evidence that this Pīsh-i-kōh portion of Lūristān, which tribal anarchy had barred to peaceful traffic until the advent of the present strong régime, had yet during the early centuries of Islām been traversed by routes serving trade.

By the beginning of June we emerged from Lūristān and at Kirmānshāh struck the ancient highway leading from Mesopotamia to the great central plateau of Media. Much of this area, important for its ancient remains, has become well known through earlier investigations. This led me to turn north-westwards to Persian Kurdistān for that elevated ground which consideration of climatic conditions indicated as suitable for the summer's field work.

There the curious caves of Karafto with their rock-cut halls provided an interesting objective at the start. A Greek inscription seen over the entrance of one of these halls refers to Herakles as protector of the place. This, combined with the topographical features surveyed, made it possible to establish the identity of the site with that sanctuary on Mount Sanbulos frequented for its divine oracles which is mentioned in connexion with a curious local legend in the account of a Roman enterprise against the Parthians recorded in the *Annals* of Tacitus.

The journey was thence continued northward to the uplands which stretch from the main Zagros range down towards the southern shore of Lake Urūmīyeh. Here the facilities for cultivation afforded by a plentiful supply of water from the mountains were found to be duly reflected by an abundance of ancient mounds. In the canton of Lahijān which had suffered many vicissitudes during the Great War, scarcity of labour, due to depopulation, restricted work to a survey of surface remains. But in the adjacent cantons of Ushnū and Solduz this was profitably followed up by excavations at certain prominent mounds. The results clearly indicated that this ground in the extreme west of Īrān had in prehistoric times been under the influence of a culture different from that of the ancient settlements previously explored on this journey.

On the approach of autumn it became necessary to regain Kirmānshāh in order to prepare for the remaining portion of my sanctioned programme. This was to have taken me through the Pusht-i-kōh, the southern part of Lūristān. I had made my way towards this through the tracts of Mahī-dasht and Gūrān when tele-

graphic instructions from Tehrān stopped further progress in this direction. A move into ancient Media undertaken instead had to be abandoned by December 1936, when increasing signs of illness obliged me to seek relief by an operation in Europe.

This rapid synopsis of my labours will sufficiently indicate the wide extent of the ground covered on this journey and the varied interest presented by its ancient remains. Regard for the time available, besides other practical considerations, was bound to impose on my work mainly the character of archaeological reconnaissances. Yet in recording their results, I felt obliged to aim at such adequacy of detail as would assist others in testing the conclusions drawn from my observations and using the information recorded for future investigation.

The study of archaeological facts could not divert my attention from the manifold points of interest, geographical in the main, but historical and ethnological also, which daily observation on such a journey, done for the most part on horseback, brought to notice. A personal narrative, kept on this as on former travels for communication to friends, helped to keep fresh essential observations and impressions of this kind. There were special reasons for me to draw upon this personal record in the present publication.

The fascinating country which European history and literature knows as Persia is undergoing at present Westernizing influences even more rapidly than other parts of the great region of the Middle East and Central Asia to which as a whole the ancient name of Īrān properly applies. This phase of transformation has its counterpart in the process

of Hellenization to which all the vast territories once included in the Achaemenian empire were exposed after Alexander's conquest. Hence the modern phase has much of special interest to offer to the historical student. Personal experiences of travel gathered at this curious stage of transition may help to illustrate corresponding aspects of the past and may prove instructive in retrospect to observers in the future.

Reasons previously indicated made me anxious to have my work in the field linked with a reliable survey of the ground over which my journey would take me. It was hence very gratifying to me that the Iranian Government kindly granted permission for a careful plane-table survey to be carried along my routes wherever the ground crossed had not before been properly mapped. The results of such surveys were as on all previous journeys duly communicated to the Ministry of Foreign Affairs at Tehrān.

But apart from this enlightened permission, I owe sincere gratitude to H.M. the Shāh's Government for the very generous way in which it granted all needful facilities for my explorations in general. Without the ready help and protection on the part of the authorities, military and civil, which its instructions assured to me, it would have been impossible to carry out my task. That I was able to move for months in perfect safety through hill tracts of Lūr and Kohgalu tribes, where conditions of anarchy had prevailed more or less constantly for generations, was striking proof of the boons of peace and order which the strong rule of H.M. Rīzā Shāh Pahlawī has assured to the land.

In the person of M. Bahmān Karīmī, Inspector of Antiquities, the Ministry of Public Instruction kindly

provided me with a very helpful travel companion, ever anxious to smooth my way with local officials and much interested in my labours. For the selection of this very capable and willing companion, and for much effective support of my plans, I am greatly indebted to Monsieur A. Godard, Directeur des Antiquités en Iran.

Under the arrangement very kindly agreed to by the Ministry of Public Instruction I was permitted temporarily to deposit at the British Museum all antiquities collected for expert examination and study, subject to their subsequent division into half shares in accordance with the law concerning antiquities. This very generous concession rendered it possible to entrust the detailed analysis and description of the whole collection to the expert care of my artist friend and devoted collaborator Mr. Fred H. Andrews, O.B.E. I feel very grateful to the Trustees of the British Museum for having in return for my half share in the collection generously provided a grant of £300 to secure this valuable assistance. I appreciate this provision all the more since all expenses incurred on the expedition, including the cost of excavations, had to be met from my own pocket.

By his labours on all the antiquities brought back from my Central-Asian and Persian explorations and by his great artistic and technical knowledge, Mr. Andrews was exceptionally competent to deal with the new finds. It was due primarily to his expert study and thorough analysis of all the objects that I was able to treat of them while preparing the present publication far away in my Kashmir mountain camp. The arrangement of the plates reproducing selected antiques, the drawings of ceramic shapes (Pls. XXVII-

XXXI), as well as the improved drawings of many of the sketch plans of sites and ruins, are from Mr. Andrews' hand. I cannot feel too grateful for the kindly Fate which has allowed the record of all my archaeological labours to benefit for the last 38 years by the expert knowledge and unfailing thoroughness of this cherished friend and collaborator.

I am anxious to avail myself of the opportunity here offered to record an expression, inadvertently long delayed, of my grateful appreciation of the valuable help rendered by Miss Joan Joshua at the British Museum when, during intervals of the years 1933–4, she assisted Mr. Andrews in the arrangement of the large collection of ancient ceramics brought back from my first two Persian expeditions. She subsequently rendered assistance also in the preparation of the plates which illustrate these and other antiquities in my *Archaeological Reconnaissances*. I regret not to have made earlier reference to this help rendered with much care and artistic skill. But the circumstances in which the Introduction to that volume had to be written may, I hope, excuse the omission. Here it may also find convenient mention that since *Innermost Asia* dealing with my third Central-Asian expedition was published, much valuable work has been done by Miss Joshua at the British Museum on the conservation of the large collection of ancient textile fragments, etc., recovered from Kara-khoto and other sites.

For the topographical portion of my task, I had the advantage once again, as on my previous journeys in Īrān, of the devoted help of Surveyor Muḥammad Ayūb Khān, whom the Survey of India Department kindly agreed to

depute with me. Very experienced and indefatigable in the field, he carried on the plane-table work with much care, always under my direct supervision. He rendered effective assistance also in my archaeological tasks by preparing plans of sites, etc., and helping to supervise excavations.

The extent of the surveys effected can be judged by the map which was prepared at the drawing office of the Royal Geographical Society for my paper in the *Geographical Journal*[1] and which the Society has kindly permitted to be attached to the present volume. Owing to the great stretch of ground over which my explorations extended, some 800 miles in a straight line from S.E. to N.W., the general map had to be drawn on the greatly reduced scale of 1 : 2,000,000. In it the portions shown with hill-shading are reproduced from the original plane-table sheets on the scale of 2 miles to 1 inch, with adjustment to any trigonometrically or astronomically fixed points. Other heights indicated in these portions are derived from barometrical observations with hypsometer and four aneroids and from clinometrical readings. Portions without hill-shading have been reproduced from degree sheets of the map of 'India and Adjacent Countries' published by the Survey of India.

Owing to the small scale of the general map it has been impossible to show in it all archaeologically important sites and other localities referred to in the text. In order to meet this need it became necessary, in addition to the two inset maps on the scale of 1 : 250,000 and 1 : 750,000, respectively, shown by the side of the general map, to insert

[1] See ' An Archaeological Journey in Western Iran ', *Geographical Journal* vol. xcii., October 1938, pp. 313-42.

seven sketch maps of areas of special interest in the text. These sketch maps have been drawn by Mr. Andrews on fairly large scales from the original plane-table sheets, but without their form lines showing hills.

The map intended for the *Geographical Journal* had to be put on the stone while I was engaged on archaeological field work in the Near East and before the text of this volume could be written. This may explain certain discrepancies in the record of local names between the map and the text. My endeavour had been to record local names as heard in the field and to apply to their spelling the system of transcription approved by the International Orientalist Congress. But difficulties were bound to be met where the local pronunciations, as in Lūr and Kurd tracts, varied markedly from the form used by Persian-speaking persons. I am aware that in such cases as also in other details, such as division of component parts in names, I am likely to have often strayed from the lines of linguistic consistency. My excuse must be that though Iranian philology had its place among the studies of my youth I cannot claim to be an Iranian scholar. In all cases of discrepant record the Index indicates the form I meant to be adopted.

There still remains for me to record my grateful acknowledgment of further consideration and help which has rendered publication of this narrative in a satisfactory form possible. However much previous experience has accustomed me to generous treatment of my books on the part of Messrs. Macmillan & Co., I could not have expected them to undertake publication of this volume without a substantial subsidy. This was provided from the Harvard

University's Fund which, mainly through the effort of Professor Paul J. Sachs and other Harvard friends, had been raised for my Central-Asian effort of 1930–31 and my first two Persian expeditions, and to which the British Museum had also contributed. I feel greatly beholden to Professor Sachs who was in charge of that Fund for having approved the use of the sum left unspent to subsidize the present publication, and to the Harvard–Yenching Institute, the chief contributor, for having given ready assent to this course.

To my friend Mr. C. E. A. W. Oldham, C.S.I., I owe warm thanks for the painstaking revision of my text before it passed into the hands of the printers. To Messrs. R. & R. Clark I feel particularly grateful for the special effort they readily made, in spite of war conditions, in order to assure this book being passed through the press before my departure for India.

At a time when the results of my recent antiquarian campaign on Rome's easternmost *Limes* still await a full report and when a projected task of exploration calls me to another great empire's border, it is no small comfort to me to feel that the obligation incurred over my latest work on Iranian soil is now absolved by this record.

AUREL STEIN

NĀGĪN BAGH, KASHMĪR
December 24th, 1939

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Parts of the Western Provinces of Īrān *In pocket at end of Volume*

CHAPTER I

IN WESTERNMOST FĀRS

SECTION I—FROM BUSHIRE TO ARDAKĀN

FOR the latest and longest of my Persian journeys Shīrāz, the capital of the province of Fārs since medieval times, provided a very suitable starting-point. There had ended in the spring of 1934 my third expedition in Southern Īrān.[1] This had acquainted me with a great part of that ancient Persis to which Īrān owed most of its historical greatness and much of its culture in the times of the Achaemenian and Sasanian dynasties, and from which it has received, not unjustly, its classical name in the West. But I had not then been able to visit that portion of the province which lies to the south-west of Shīrāz and which, by reason of the important route leading through it to ancient Elam and the lands at the head of the Persian Gulf, presents a special antiquarian interest. To follow this route from Shīrāz through the Māmasānī and Kohgalu hills to the plain of Khūzistān was the first aim of my resumed travels.

[1] See for a detailed record 'An Archaeological Tour in the Ancient Persis', printed in *Iraq*, vol. iii. pp. 111-225, with Pls. XIX-XXX. The map on the scale of 1 : 750,000 accompanying that record and showing the area surveyed on that expedition had been published before by the Royal Geographical Society with a preliminary account of the same title in the *Geographical Journal*, vol. lxxxvi., December 1935, pp. 490-507.

On November 6th, 1935, I had landed at Bushire from Karachi, with Surveyor Muḥammad Ayūb Khān and my two Kashmīrī servants. M. Karīmī, of the Department of Antiquities, Īrān, had awaited us there. After a busy day's stay under the hospitable roof of Colonel Sir Trenchard and Lady Fowle at the British Consulate-General, I proceeded to Shīrāz, which was reached by motor car in two days. The road, familiar to me from former journeys, has often been described by European travellers since it became the usual means of access to central Īrān from the sea. As range after range of these precipitous and for the most part utterly barren mountains was crossed by a succession of passes apt to test the skill and nerves of the motorist, I felt as much as ever convinced that it was this ascent to the tablelands of Persis to which the classical designation of *Climax Megale*, the 'Great Ladder', appropriately applied.[2] It seemed difficult fully to realize what this route must have meant for poor suffering mules, ponies and donkeys before motor transport drove them off it.

My practical preparations at Shīrāz were greatly facilitated by the convenient base which the hospitable welcome at the British Consulate kindly accorded by Colonel H. A. W. and Mrs. Hoyland assured to me. My stay was made pleasant also by the very helpful attitude of the Iranian authorities. H.E. Majīd Khān Ahī, the enlightened late Governor-General of Fārs, in particular was kind enough to receive me as an old friend and to do everything to smooth my path. All the same, it took fully

[2] Cf. Pliny, *Historia naturalis*, vi. 26. That the passage refers to the route from the coast to Persepolis was rightly recognized by Ritter, *West-Asien*, p. 771 sq.

a week before all arrangements for transport, escort, etc., were completed.

Of special importance among these was the provision of suitable transport for my party in the shape of sixteen hardy mules hired from Kāzarūn. My previous journey in Fārs had shown me the great powers of endurance displayed by these excellent animals. The experience subsequently gained on this new journey has made me feel even more grateful for the pluck and persevering strength with which they overcame all difficulties, even on the worst tracks to be faced on our moves in the hills. It was due to the remarkable qualities of these mules and the great care with which they were looked after by their hard-worked owners, that even the trying weather conditions experienced during the winter rains did not seriously impede our progress, however much they affected the ground, especially amidst slippery limestone hills. The use of motor transport on such high-roads as have been made practicable for it between main centres of trade and traffic has in recent years greatly reduced employment for mules and in consequence also the rates of their hire.

On November 17th we started from Shīrāz with an escort of ten mounted gendarmes for Ardakān, which was my first goal. As the road led up the broad valley to the north-west from which Shīrāz receives the water feeding its canals, large gardens were passed in close succession for close on 8 miles. The massive high walls enclosing them and the residences within, built more or less for defence, testified to the prolonged insecurity which prevailed here before and during the Great War while the contending

parties of the Qāshqai and Qawām tribal chiefs fought over the booty of Shīrāz. Higher up there stretched a bare gravel plain holding dry flood beds between picturesque hill chains on either side, broken only here and there by small patches of cultivation. At the walled village of Guyūm, reached after an 18-mile march, heavy rain detained us for two days. Slightly raised ground, marking an abandoned part of the village site, fortunately protected our tents from the flood that spread all round.

A short break in the rain allowed me to visit the picturesque little hill town of Qal'āt, some 5 miles to the west, nestling on the steep slope of the Kōh-i-barfī, the 'Snowy Mountain', which rises to some 9400 feet and has for ages supplied Shīrāz with the snow needed to keep drinks cool in the summer. The high tower overlooking Qal'āt and accounting for its name had been reported as very ancient. Its massive masonry built with undressed stones furnished no clear indication of age, but the structure may well be medieval. More interesting was the town itself, built on a narrow ridge by the side of which a fine streamlet rushes down in cascades. With its closely packed houses rising in tiers and entered through gloomy vaulted passages, it recalled to me old towns of the Italian Riviera built on equally steep slopes, or rather what they might have looked like in the dark ages. Along the hillside stretch famous vineyards, upon the produce of which the inhabitants mainly live.

Resuming our journey on November 20th, we ascended the gradually narrowing valley past the hamlet of Kalistān and across the watershed between Shīrāz and the Ardakān basin to the hamlet of Shūl. Until the establishment some

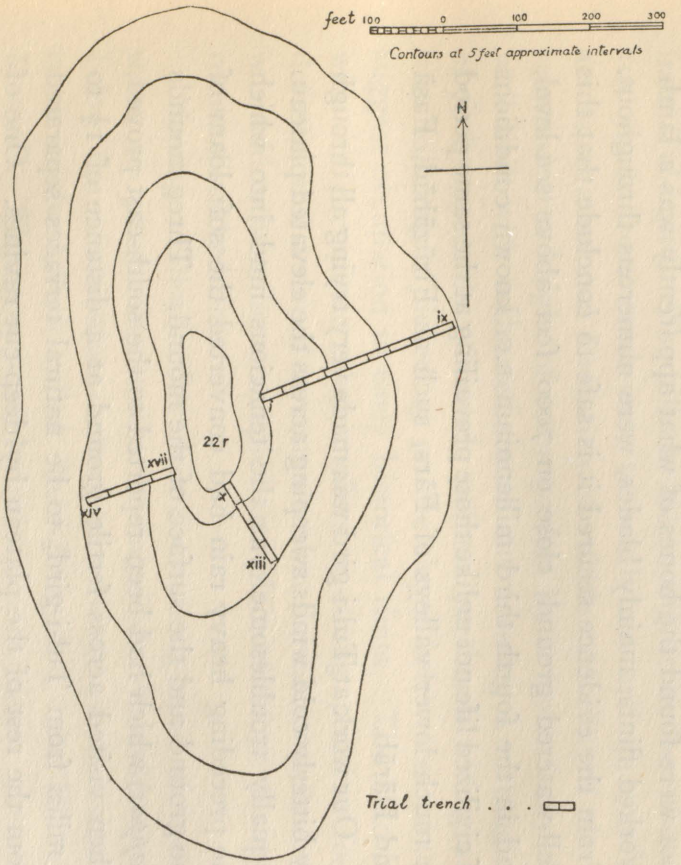
five years before of gendarmerie posts at regular intervals this road had suffered a good deal from marauding exploits of the powerful Buyair Aḥmad tribe in the north-west. For a considerable distance a succession of vineyards, whether still planted or abandoned, bore witness of that wine for which Shīrāz has been famous since early times. The best of it was said to be produced in the Kulār valley on the opposite side of the hill range to the north. A route leading to Kulār was passed a couple of miles below Shūl when we resumed our march on November 21st, after a cold night passed at an elevation of some 7000 feet.

On descending the valley a wide view was obtained across the broad trough of Ardakān overlooked on the north by the high snowy peaks of Rūnj. The stream fed by them brings down an abundant supply of water on to the elevated plateau of Ardakān, affording for its length of some 10 miles an ample expanse of fertile land. On moving along the northern rim of this trough past the village of Dālīn there were to be seen extensive debris-covered terraces marking old village sites. On the slope high above them there could be traced the line of a large canal which had at one time helped to irrigate a great part of the gently sloping land below. It is now all scrub-covered waste. In Karīm Khān Zand's time this canal was said to have carried its water across a low saddle eastward into the valley of Kulār, and thence even to a western portion of the Marw-dasht plain. Its construction may well date much further back.

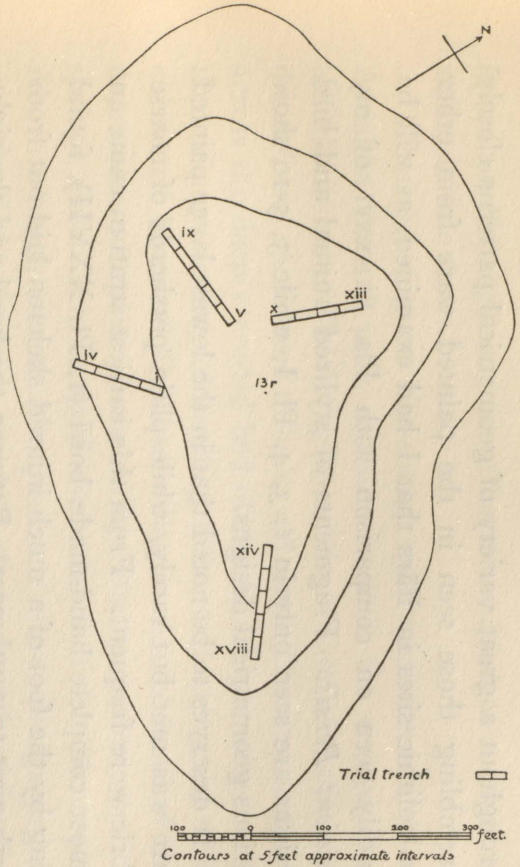
While following the road towards Ardakān town I had noticed a small conical mound, obviously artificial. It rises amidst cultivated flat ground low down in the basin drained by branching channels of the stream which farther down

bears the name of Shash-pīr. After camping near the walled village of Bawākiūn to the south of the road I proceeded next morning over soaked fields and numerous shallow channels to this mound, appropriately known as *Tul-i-gird* (*recte* Tal-i-gird), 'the Circular Hillock' (Fig. 1). Fragments of painted pottery as well as some worked flints readily picked up on its surface indicated prehistoric occupation. The small size of the mound, measuring about 47 by 34 yards at its foot and rising to 27 feet, invited trial excavation. So our camp was moved the same day, November 22nd, about one mile and a half to the south, to a low limestone ridge which rises above the sodden flat of the basin and bears a small walled village also called Tul-i-gird. The rest of the day, before rain descended again, was devoted to a reconnaissance ride towards the reported mound of Tul-i-Naghāra to the north-west.

With the help of an adequate number of labourers gathered from the neighbouring villages, I had in the course of the following two days a trial trench, 6 feet wide, cut from the top of the mound down to the bottom on its eastern side (Plan 1). In the nine sections of the trench, arranged step-wise, an average depth of 8 feet was reached. Other shorter trenches on the south and south-west slopes were dug to a depth of about 4½ feet only. Fragments of monochrome painted pottery were found in all sections from about 1½ feet from the surface downwards. Above this there were noticed amidst plain ware, mainly red or dark-grey, pieces showing broad flat ribbing not unlike that of pottery associated with burials subsequently examined at Lūristān sites yielding bronze objects. The painted pottery, of which specimens are reproduced in Pl. I, shows almost



1. SKETCH PLAN OF TUL-I-GIRD, ARDAKĀN



2. SKETCH PLAN OF TAL-I-HASANACH, BEHBEHĀN

throughout a great variety of geometrical patterns closely resembling those seen in the painted ware from other chalcolithic sites in Fārs that I had examined, as will be readily seen on comparison with Pls. XXI-XXVI of my *Ancient Persis*. Fragments of stylized animal and bird designs are seen only in 1, 3, 4, Pl. I, while 3, 5-10 show various geometrical designs.

It deserves to be noted that in the lowest layer painted ware was met but rarely, while plain potsherds of coarse fabric were frequent. From this earliest stratum came an almost complete hand-made bowl (1, Pl. XXVII), found lying by the foot of a much-injured skeleton laid out from north-west to south-east. Between the bowl and the right foot were found the bones of what apparently was a lamb. Worked flints, mainly blades, were numerous throughout. From the evidence secured it is safe to conclude that this well-watered ground, close on 7000 feet above sea-level, had in the fourth-third millennium B.C. known conditions of civilized life not unlike those prevailing at the same period in much lower valleys of Fārs, such as Fīrūzābād, Fasā and Dārāb.

Our work at Tul-i-gird was made very trying all through by bitterly cold winds sweeping across the elevated plateau. Equally troublesome was the tenacious mud into which the preceding heavy rain had converted the soft loam of the ground and the surface of the mound. Three mounds (*tappas*) which had been reported to the south-east proved, when visited across fertile ground at a distance of 1½ to 2 miles from Tul-i-gird, to be natural terraces separated from the rest of the plateau by deep-cut ravines. One of them, judging from coarse potsherds and glass fragments

found on the top, may have been occupied as a place of safety in late times.

When moving on November 25th north-westwards to Ardakān town I took occasion to visit the conspicuous hillock known as *Tul-i-Naghāra*, 'the Mound of the Kettle-drum', and considered to be an old site. The way to it led across the deeply eroded bed of the Shash-pīr stream and then along the foot of swelling hills overlooking the well-cultivated lands of Kushkak village. At the head of the depression occupied by the village rise numerous copious springs which help to swell the volume of the Shash-pīr. Above a boggy terrace where some of these springs gather rises the Tul-i-Naghāra, reached after a march of 6 miles from Tul-i-gird. The hillock, measuring at its foot about 105 yards from north-west to south-east and 54 yards across, is a natural formation of rubble and alluvial clay crowned at a height of some 50 feet by a much-decayed wall built with undressed stones and forming a rectangle of 70 by 35 yards. Coarsely painted potsherds with geometrical designs picked up on the slopes below seemed to suggest occupation in early historical times. The hillock with its precipitous slopes offers a strong position for defence, and a ruined structure within the circumvallation was said to have been occupied as a place of refuge during recent disturbed times.

Moving 2 miles farther, over down-like ground of limestone, we passed the stream coming from Ardakān, and below the picturesque orchard-girt village of Bereshna came to the hillock called *Tul-i-Khargōsh*, 'the Hare's Mound'. This, too, proved a natural formation. It rises to some 40 feet above a lively streamlet descending from

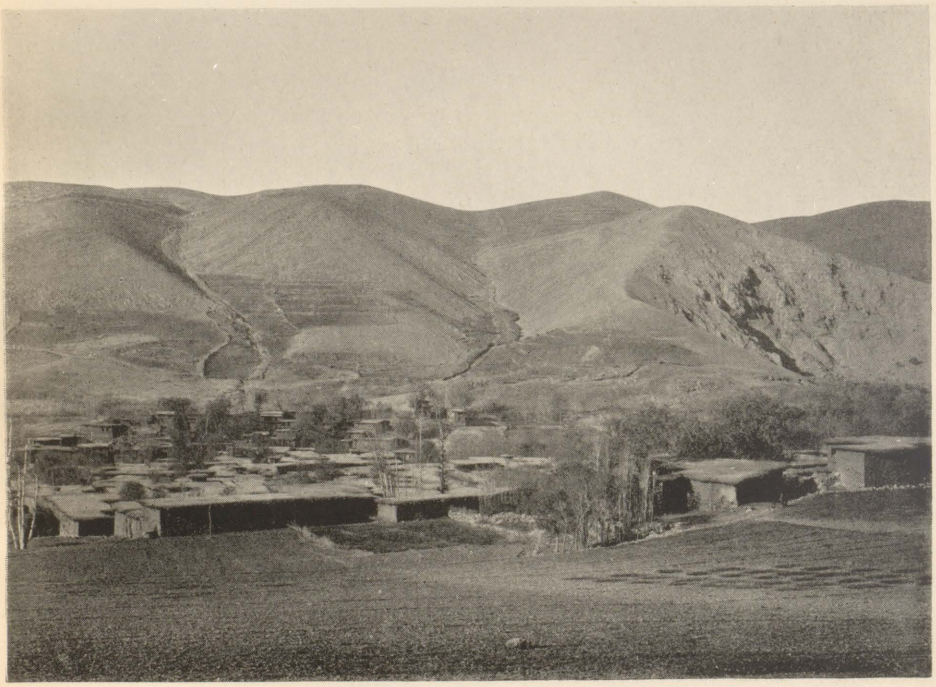
the village, and on its top bears a weather-worn circumvallation forming a square of about 36 yards. No indication as to its age could be found on the surface. After passing below the stretch of terraces bearing the vineyards of Bereshna, many of them now abandoned, we followed the road winding up to Ardakān. The gradually narrowing valley showed a continuous stretch of cultivation at its bottom with scattered groves of walnut and other trees, all welcome proof of the fertility brought here by the water from the snowy massif of Rūnj towering in the north.

Various considerations induced me to make a day's halt at Ardakān (Fig. 2), which serves as the market-town for the villages of the fertile tract extending over the plateau eastwards. It is also the place which the nomadic Māmasānī tribes using the extensive and as yet little-known high valleys to the north and north-west as their summer grazing-grounds are accustomed to visit for their civilized needs in the way of tea, sugar, fabrics and the like. To the Buyair Aḥmad, the most turbulent of these tribes, the means for such purchases were until quite recent years largely furnished by plundering raids carried out on the roads towards Isfahān and Shīrāz. So it was scarcely surprising to learn that some of the more substantial houses now occupied by the Deputy-Governor and some other local officials had been owned before by local headmen who used to add considerably to their income by organizing such forays and acting as receivers for their proceeds.

They were now learning better ways by being kept, along with so many of the tribal chiefs all over Īrān, among the *détenus* whom Tehrān sees within its walls under close



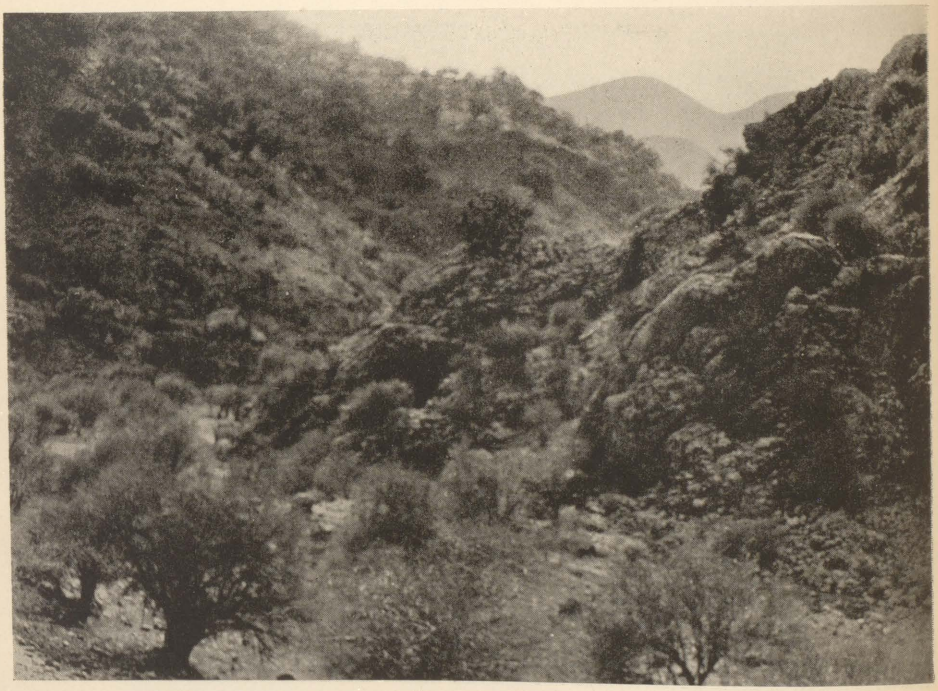
1. MOUND OF TUL-I-GIRD, ARDAKĀN, SEEN FROM SOUTH-WEST



2. ARDAKĀN TOWN, SEEN FROM NORTH-EAST



3. VIEW UP FROM MULLAH SŪSAN TOWARDS BOLSŌRU PASS



4. VIEW DOWN TANG-I-KHĀṢ VALLEY BELOW MULLAH SŪSAN

surveillance. Enforced settlement of previously nomadic or semi-nomadic tribes forms an essential part of the system, by the steady application of which the strong regime of His Majesty Rizā Shāh Pahlawī is gradually securing peace and order to the tried land of Īrān. But it was not until this journey had carried me further westwards that I had opportunities of observing directly the measures used for this purpose and the positive results so far achieved by them.

Section ii—AN ANCIENT MOUNTAIN ROUTE

On November 27th we started on the first of the marches that were to carry us back from Ardakān to the old caravan route forming the most direct connexion between Shīrāz and the lowlands of Khūzistān. There was good reason to believe on geographical grounds alone that this route, still a mere caravan track as of old, had served also in ancient times as the chief line of communication between Susiana and Persis. There could be little doubt that it was this route which Alexander also had followed on his rapid advance from Susa to Persepolis, the ancient capital of Persis. Obviously this consideration added greatly to my interest in the route. It was enhanced by the fact that even the latest large-scale map then available, the quarter-inch Sheet No. 10.N. of the Survey of India, corrected up to 1918, still showed most of the area crossed by it in the hills as practically unsurveyed.

I was aware that when passing Dālīn I had left the caravan track, which in the vicinity of that village turns off to the west from the Ardakān road. My intention was

to rejoin it from Ardakān in the north, and since the intervening ground was altogether unexplored there was a special inducement to make this detour. It will be seen further on that I had no reason to regret my decision.

After starting from Ardakān on the morning of November 27th, our route led first across broad down-like ridges furrowed by narrow valleys. In these lively streams, called after the small hamlets Kharkīsh and Chashma-safīd higher up, descend from the high snow-capped range of Barm-fīrōz in the north, culminating in the Rūnj peak (12,049 feet). The contrast between these utterly bare rolling downs and the fertile plain to the east was striking. Turning off from the Chashma-safīd stream to the south-west after marching about 8 miles the broad ridge of Bijeshki was gained by a fairly steep ascent at an elevation of about 7500 feet. An impressive view was had from here of the great snow-clad range to the north. After passing across the small valley of Rūshir containing some fields and a ruined tower there was reached, beyond a low narrow saddle, the lower end of the wide open valley known as Chahār-darra or Gōr-espīd. Its stream together with that of Rūshir was said to join the Shash-pīr below the bridge of Pul-i-Jūjak (Dūzakh), crossed by the caravan route away to the south-east.

The broad elevated valley of Chahār-darra, stretching away far to the north-west, forms a favourite summer grazing-ground of both Turkī-speaking Qāshqais and the Jāwī branch of the Māmasānī tribes. It was utterly deserted at this season, and with a bitterly cold wind blowing in our faces it made me feel as if I was once again on a Pāmīr. The domed tomb of some old Qāshqai chief, curiously

like those Kirghiz ' Gumbaz ' to be found on the Pāmīrs, emphasized this resemblance. From it the valley has taken its alternative name of Gōr-espīd, meaning the ' White Tomb '. A short distance above this conspicuous structure we turned off from the valley, which stretches for a considerable distance farther up to the north-west along the foot of the rugged Paskōhak massif, and after a short but steep ascent reached the broad saddle of Bolsōru. This marks the rim of the central Persian tableland at an elevation of about 7500 feet.

From a hill-top above the pass, which we climbed for the sake of a plane-table station, the eye ranged far over a wholly different landscape. Close growth of oak trees had met us on reaching the saddle, and below it to the south the steep hillsides bounding narrow valleys are clothed with rich forest. It was a real treat for the eyes to behold this wealth of vegetation with its bright autumn tints lit up by the setting sun. This welcome change from the arid landscapes of Fārs made me almost forget the fatigue caused by the abrupt descent over extremely steep slopes. The way led through luxuriant oak forest down the flank of the Paskōhak massif by a stone-encumbered path which our brave mules, heavily laden, could follow only with great difficulty. After about 2 miles of such descent the wooded slope became easier, and 1 mile farther on we reached a small patch of fairly level ground where the tents could be pitched by nightfall. The spot is known as Barebīd, from a few stone-built huts occupied during the summer months by Jāwī tribesmen.

It was delightful hill scenery which met the eye next morning. Oak trees clothed even the precipitous rocky

slopes on the opposite, southern side of the narrow valley. Down this the track wound in many steep zigzags, often difficult to recognize among the abundant growth of trees with which also low conifers mingled. After close on 2 miles of such progress it was somewhat of a surprise to come upon a considerable stretch of open, gently-sloping ground with fields cultivated in the summer by semi-nomadic Jāwīs (Fig. 3). Neither people nor habitations could be seen. But our guides knew this stretch of cultivated open ground by the name of Mullah Sūsan. I shall have occasion presently to refer to the significance of this open ground at the head of the valley which as a whole bears the appropriate name of *Tang-i-khāṣ*, meaning ' the Special Narrows '. On the opposite side of the valley there was noticed again and again a straight line suggesting a properly aligned road. It could be readily recognized as the line followed by the ancient caravan route leading up from the plains of Susiana towards Persis.

Another 2-mile descent along the slope on the northern side of the valley, now steadily narrowing again (Fig. 4), brought us to rocky ridges overlooking the junction of the fine Tang-i-khāṣ stream with another descending from the height of Paskōhak to the north-west, and less than half a mile farther, after crossing the rock-bound beds of both, we reached the caravan track. From here onwards it ran along the left bank of the united stream, with many ups and downs where cliffs by its sides had to be surmounted. Fallen rocks encumbered the path in places. Elsewhere it was lined by fine oaks now thickly interspersed with high bushes of myrtle and wild almond. High up on the slopes above the left bank some huts and fields could be

sighted. About a mile beyond the stream junction we passed a small graveyard, manifestly old, with inscribed coffin-shape tombstones. Then crossing to the right bank the caravan track took us past a place pointed out by our Ardakān guides as *Anār-bāgh*, where a few pomegranate bushes still marked an abandoned old orchard. Beyond this the path left the valley bottom and led up steeply to a small col across a ridge around which the Tang-i-khāṣ stream turns away westwards in a narrow impracticable gorge. It was on this ascent of close on 200 feet that distinct remains of an ancient walled-up road could be seen more clearly than elsewhere.

But a far more conspicuous mark of the ancient route was to be sighted from the col in the shape of the ruined bridge known as *Pul-i-mūrd*, 'the Bridge of the Myrtles' (Fig. 6). It spans a considerable stream, named Āb-i-Lāleh on the Survey of India map, which descends from as yet unsurveyed uplands to the north-west of the Paskōhak chain and receives the stream of the Tang-i-khāṣ in a deep-cut ravine more than 1 mile lower down. Of the bridge, the main arch thrown across the rock-bound bed some 30 yards wide has completely fallen; but the arches of approach, three on the left bank and one on the much higher right bank, over which the height of the central arch was once gained, still survived in fair preservation. The width of the arch on the right bank was 6 yards, and the breadth of the roadway it carried 3 yards. The pier on which the central arch had rested was strengthened on either flank by a semicircular buttress. The very massive construction with large undressed blocks of stone set in cement and the rounded shape of the arches pointed to

Sasanian origin, as already suggested by Professor E. Herzfeld to whose careful description of the old road where I had not followed it myself I shall have repeated occasion to refer later on.[1] These features together with another detail, namely, small vaulted openings observed in the piers above the springing of the arches, distinctly recall Roman structural methods, to which Sasanian architecture is known to have been largely indebted. The remains of a small ruined caravanserai close to the bridge on the left bank, on the other hand, manifestly dated from early Islamic times.

We shall have to turn back to the ancient route at the head of the Tang-i-khāṣ in order to see how the knowledge now gained of the topography of this ground, as illustrated by the inset of the map, helps to explain an important historical episode in Alexander's progress through Īrān. But first of all it will be convenient to complete the description of the route down to where it emerges from the lower mountain defiles into the open valley of Fahliūn. The name given to these defiles by our guides was Tang-i-Gerrau.[2] From the Pul-i-mūrd, above which we had camped on the evening of November 28th, there still remained a trying march to be done before we were clear of the mountain rampart. It would have been better to have halted for a day with the object of making an inspection of the old caravan route right up to the rim of the plateau; but

[1] See 'Eine Reise durch Luristan, Arabistan und Fars', *Petermann's Mittheilungen*, 1907, p. 85 sq.

[2] That the term *Tang-i-khāṣ* is extended also from the upper to the lower portion of the defiles is seen from Herzfeld's account (*Petermann's Mittheilungen*, 1907, p. 85) and the Survey of India Sheet No. 10.N. The alternative designation, *Tang-i-Jāwī*, recorded in the former, is due to the valleys on the route being included in the Jāwī tribal area.

regard for our hard-tried mules, for which it had proved impossible to secure the expected fresh supply of fodder at this stage, obliged us to move on.

After a steep ascent from camp the winding track crossed successive ravines of a broad hill spur for close on 3 miles before we caught sight again of the stream crossed at Pul-i-mūrd in a deep-cut winding gorge. A steep descent in a rocky gully followed to where a series of narrow terraces lining the left bank of the stream under wooded slopes offered a chance of easier progress for close on 2 miles. Our baggage train crossing the stream was rightly taken along this, the usual track. But the guide accompanying the Surveyor and myself, whom plane-table work had kept behind, chose, for some unexplained reason, to lead us by a far more troublesome track on the precipitous right bank. There was, however, compensation for the fatiguing scramble over narrow rock ledges and ladder-like cliffs when we came upon stretches of walled-up road and then a small well-preserved bridge across a deep rocky ravine. It was built exactly like the Pul-i-mūrd and obviously dated from the same early period. This alternative, if difficult, track was obviously engineered for the purpose of permitting traffic to be maintained even when the crossing of the stream and the use of the usual route was made impossible for a time by a flood.

At a sharp bend of the gorge an impassable spur of limestone had forced the mule train to recross the stream to its right bank. There difficult slopes still remained to be scrambled over for a couple of miles. But when finally the last rocky side spur on the right bank, known as Tul-i-Nārak (Fig. 5), had been crossed, open ground lay

before us. There at the wide mouth of the valley its stream meets the much larger Shash-pīr draining the Ardakān plateau, and then the united Fahliūn river winds along the foot of the bold table mountain of Qal'a-safīd, 'the White Castle', into the broad fertile tract of Fahliūn, from which it takes its name onwards. At Dasht-i-raz, the first village met in Fahliūn, the day's march ended.

Section III—Alexander at the Persian Gates

In my preliminary remarks above on the old trade route, which we have now followed on its passage through the mountains below the Ardakān plateau, I have referred to the special historical interest it derives from having been followed by Alexander on his march from Susiana past the 'Persian Gates' to Persepolis. That Alexander's move led along this route, the most direct between Susiana or Khūzistān and the central portion of Fārs, had already been correctly recognized by Kinneir early in the last century, and his opinion Ritter, the geographer, had justly felt prepared to share.[1] The accounts of Alexander's historians leave us in no doubt as to the reasons which induced the great conqueror to take the most direct route from Susa to Persepolis. He had to take it in order to secure in

[1] See Kinneir, *Geographical Memoir on the Persian Empire* (1813), pp. 72 sq., 457 sq.; Ritter, *Erdkunde von Asien*, VI. 'West-Asien', pp. 136, 142 sq.

[Mr. C. E. A. W. Oldham, since the above was written, has kindly drawn my attention to the fact that Major James Rennell in the *Atlas of Maps* intended to accompany his 'Treatise on the Comparative Geography of Asia' had, before Kinneir, correctly indicated Alexander's route as passing from Behbehān towards Persepolis. This sheet of his 'Map of Western Asia' was drawn in 1809 and printed in May 1810, *i.e.*, before Kinneir had made his journey.]

time the vast treasures there amassed by the Achaemenian monarchs.

A look at the map suffices to show that the old caravan route leading through Behbehān, Bāsht and Fahliūn to the Ardakān plateau, attested as we shall see by a succession of ancient remains, is the only direct one which can be considered. But without close topographical knowledge of the ground, for which no proper survey was so far available, it was obviously impossible to follow Alexander's movements just where the data in the classical records are sufficiently detailed to permit of proper location. Apart from the references to the defile held by the Uxian hillmen, which we shall have occasion to consider further on, we are given such details only with regard to the operations of Alexander at the pass giving access to the plateau of Persis and described as the ' Persian (or Susian) Gates '. They concern the Macedonians' advance towards the pass, their repulse by the Persian force under Ariobarzanes holding it, and Alexander's subsequent turning movement executed over very difficult ground which enabled him to take the defenders in the rear and, after their defeat, rapidly to make his way unopposed to Persepolis.

From the fairly detailed and in all essentials concordant accounts of Alexander's historians, Arrian, Curtius and Diodorus,[2] we learn that, after having completely subjugated the Uxians' territory intermediate between Susiana and Persis, he " sent off the baggage trains, the Thessalian cavalry, the allies, the mercenaries, and all the other heavier armed troops of his army with Parmenio, to lead them

[2] See Arrian, *Anabasis*, III. xviii.; Curtius, *Historiae*, V. iv., v.; Diodorus, *Bibliotheca*, XVII. lxviii.

against the Persians (*i.e.*, Persis) by the main road which leads into their country ".[3] We shall see further on that by this main road can be meant only the longer but much easier trade route well known to the early Arab geographers which from the Fahliūn valley diverges to the south-east, and passing the Shāpūr valley joins at Kāzarūn the Bushire-Shīrāz high-road.[4]

" He himself took with him the Macedonian foot, the Companions' cavalry, the mounted scouts, the Agrianes and the archers, and marched at full speed through the hills. When he arrived at the Persian Gates he found there Ariobarzanes, the satrap of Persis, with forty thousand infantry and seven hundred horse, having already built a wall across the Gates and encamped there near the wall, to bar Alexander's progress." [5]

Arrian makes Alexander encamp on nearing the ' Gates ', and the accounts of Curtius and Diodorus clearly state that the Macedonian advance through difficult defiles was left on purpose so far unopposed. But when the attempt was made to take the pass, the advantages enjoyed by the enemy holding higher ground over precipitous rocky slopes enabled them to repulse the attack of the Macedonians with great slaughter. Curtius and Diodorus both give graphic, if rhetorically coloured, descriptions of the heavy losses suffered by the assailants from the large

[3] See Arrian, *Anabasis*, III. xviii. 1 sq., quoted here as elsewhere from Robson's translation (Loeb Classical Series, 1929) with such slight modifications as the context makes advisable.

[4] Cf. below, p. 33 ; also Curtius, *l.c.*, V. iii. 12, where this route is meant by *campestri itinere*.

[5] Arrian, *l.c.*, Curtius, V. iii. 12, makes Alexander move towards the crest of the mountains and enter the defiles " called the Susian Gates " on the fifth day. Diodorus, XVII. lxviii. 1, also refers to the ' Susian Gates ' as reached on the fifth day after capturing the towns of the Uxians.

Curtius indicates the strength of Ariobarzanes' force as 25,000 feet and so does Diodorus, adding 300 horse.

stones rolled down from the heights and the missiles discharged from above upon their serried host. In Arrian's more sober account we read that Alexander, " as his troops were suffering much damage, being assailed by volleys from commanding heights and even from catapults, for the moment fell back on his camp ".[6] In connexion with this enforced retirement, Curtius rightly emphasizes the depressing effect it must have had on the great conqueror, now repulsed for the first time in his victorious progress through the Persian empire. He adds the important detail that the camp to which Alexander was obliged to recall his troops was placed in an open position 30 stadia, or about $3\frac{1}{2}$ miles, from the ground held by the enemy. This detail is confirmed by Diodorus, in whose text the erroneous figure of 300 (*τριακοσίους*) stadia is a clerical error long ago corrected into 30 (*τριάκοντα*) with reference to Curtius and a corresponding short notice of Polyaenus.[7]

The move by which Alexander extricated his force from the very precarious situation resulting from this initial defeat is told by the several historians in a fashion agreeing on all essential points. Arrian's account, being both clear and sober, may therefore be conveniently reproduced.[8] Prisoners which Alexander had taken

" undertook to lead him round by a different route, so that he could make his way within the gates. But gathering from enquiry that this route was rough and narrow he left Craterus there in charge of the camp with his own brigade and Meleager's, a few of the archers, and about five hundred horse, bidding him, so

[6] See Arrian, *l.c.* III. xviii. 3; Curtius, V. iii.; Diodorus, XVII. lxviii. 2, 3.

[7] Cf. note 23 in Fischer's edition of Diodorus, vol. iv. p. 239; Polyaenus, *Strategemata*, IV. iii. 27.

[8] See Arrian, *Anabasis*, transl. Robson, III. xviii. 4-10.

soon as he should perceive that he himself had managed to get right round and was nearing the Persian camp (of this Craterus would easily be aware, for the buglers would signal it to him), to fall upon the wall. So he moved on, by night, and traversing some hundred stades brought up the Hypaspists, Perdiccas' brigade, the lightest armed of the archers, the Agrianes, the royal squadron of the Companions, and over and above this one double squadron of cavalry, and with them made a turning movement towards the gates, by the way in which the prisoners guided him. Amyntas and Philotas and Coenus were instructed to march the other troops towards the plain, and to bridge the river which he would have to cross towards the Persians (*i.e.*, Persepolis).

But he himself followed a difficult and rough path, and yet for the most part took it at a great speed. Falling upon the first guard of the barbarians before dawn, he destroyed both this and the greater part of the second. Most of the third fled, yet not even these fled to Ariobarzanes' camp, but ran away in terror from the spot just as they were to the hills; so that quite unobserved, just at dawn, he assaulted the enemy's camp. At the very moment as he attacked the trench, the bugles sounded, notifying Craterus' troops, and Craterus assaulted the outworks.

"So the enemy, caught on all sides, never so much as came to blows but fled; even so they were hemmed in on all sides. Alexander was pressing hard upon them here, Craterus' troops were hastening up there, so that the greater number of the Persians were forced to turn back to the walls and seek escape there. But by this time the walls themselves were in Macedonian hands. For Alexander had expected to happen just that which did happen; and so had left Ptolemy there with some three thousand infantry, so that the greatest part of the barbarians were cut down by the Macedonians at close quarters. Even those who were attempting flight, and the flight had become a panic, threw themselves over the cliffs and perished; but Ariobarzanes himself with a handful of horsemen escaped to the hills. Alexander once more at full speed led on towards the river; and there he found the bridge already made, and crossed without difficulty with his troops. Thence once more at full speed he hurried on towards

the Persians (*i.e.*, Persepolis) and arrived there before the garrison had plundered the treasure."

To this concise account of Arrian the rhetorically ornate narrative of Curtius adds a few useful details.[9] We are told in it that the guide on the difficult movement was a Lycian who as a captive shepherd had become familiar with the mountain heights; also that when the march was started at the third watch of night, the soldiers were made to take with them food supplies for three days. The ascent over precipitous rocky slopes was made still more trying by snowdrifts. After the mountain crest was reached the route towards Ariobarzanes lay to the right. Here mention is made also of a light force of mixed foot and horse, under Philotas, Coenus, Amyntas and Polypercon, being detached to proceed over easy and fertile ground.[10]

After Alexander had continued his march by a difficult path well removed from observation by the enemy a halt was made by midday to let the troops have much-needed rest and food. Half the distance to the enemy had by that time been covered. The march was then resumed by the second watch of night. The ground, though less precipitous than before, still offered serious difficulties, in particular owing to a deep-cut torrent bed to be traversed in the darkness. Finally after day had broken, the Macedonians reached a height overlooking the Persian

[9] See Curtius, *l.c.*, v. iv.

[10] *Ibid.* v. iv. 20. The subsequent reference (v. iv. 25) made to this force as aiding in the final rout of the Persians holding the Gates clearly shows that Curtius or the writer he follows has here misunderstood his source. The description given of the ground over which the detachment was to proceed as easy and fertile leaves no doubt about that detachment being meant which according to Arrian was sent ahead to bridge the river Araxes and thus to expedite Alexander's move on Persepolis.

position. Their unexpected attack aided by Craterus' advance from below the pass then speedily brought about the enemy's complete rout with much slaughter. Ariobarzanes, however, is stated to have escaped with some of his men towards Persepolis only to be subsequently cut down by his pursuers.

Diodorus's narrative (XVII. lxviii. 5-7) is much shorter but confirms the mention of the Lycian guide and the great toil undergone in the ascent from the steepness of the wooded mountainside and the deep snow met. It also refers to the difficult nature of the ground traversed farther on, broken as it was by deep torrent beds and many ravines. The unexpected attack of the Macedonians is described as overpowering in succession three outposts of the enemy and finally leading to the capture of the pass and the destruction of Ariobarzanes' force.

A comparison of the inset map prepared from our plane-table survey and the careful route-sketch made along the caravan track by Professor Herzfeld on his journey in 1905 shows how closely Alexander's operations recorded in the classical accounts we have examined agree with the topographical features as observed on our move across the southern rim of the Ardakān plateau and down into the head of the Tang-i-khāṣ valley. In describing this move I have already called special attention to the remarkable stretch of gently-sloping open ground, known as Mullah Sūsan (Fig. 3). Enclosed on all sides by very steep wooded slopes, it forms a striking feature at the head of Tang-i-khāṣ valley, elsewhere extremely confined at its bottom. This open tree-girt plateau fully 1 mile in length is the only space within the valley which could afford

adequate room for the camp of a considerable force such as that brought by Alexander on his march towards the ' Persian Gates '.

From here the caravan track could be clearly seen on the opposite side of the valley winding up with a fairly easy gradient along steep wooded slopes to a point where it enters a narrow defile before attaining the pass at a height of some 6700 feet about $3\frac{1}{2}$ miles farther. The precipitous rocky slopes overlooking the track at this point on both sides would make it easy for a force holding the pass and the heights near it to stop any advance towards the pass by the method of defence which the texts describe. Now it is important to note that the distance between this point and the open ground at Mullah Sūsan corresponds as closely as may be to the 30 stadia or $3\frac{1}{2}$ miles which Curtius, in accord with Diodorus and Polyaenus, records as the distance over which Alexander withdrew when the assault was abandoned.

The wall which Ariobarzanes is said to have built to close the Gates may have been a defensive line of roughly heaped-up stones, such as are known by the term *sangar* throughout the mountains of Īrān. Whether any remains of it could still be traced only close examination on the ground might show. Until then its position must remain uncertain. Professor Herzfeld found ruins of defensible dwellings perhaps dating from Sasanian times at a place called Chār Sarāb Kharābe at an elevation of about 5320 feet and not far from the point above indicated.[11] But it deserves to be noted that Arrian's account of the final attack by Craterus clearly distinguishes between the

[11] See Herzfeld, *Petermann's Mittheilungen*, 1907, p. 86.

outworks (προτείχισμα) defending the pass and the walls (τὰ τείχη) to which those first facing Craterus at the former retired to find the latter already occupied by Ptolemy's Macedonians. The defensive line of *sangars* may well have been thrown up at the watershed, and it is just beyond this to the south-east that there stretches the open flat trough of 'Aliābād which would have allowed adequate camping-places for Ariobarzanes' large force. That Alexander after his turning movement had brought him to the rear of the pass first attacked the Persian camp is clearly stated by Arrian, and there on the flat ground of 'Aliābād the trench (τάφρος) mentioned by him would have to be looked for.

We find the same close agreement also between the topographical facts and Arrian's account of Alexander's difficult march from his camp to the rear of the 'Gates'. The distance of "some hundred stadia", or about 12½ miles which Arrian's text states to have been traversed on Alexander's turning movement "on a rough and narrow path", agrees closely with the distance to be covered on the difficult ascent from Mullah Sūsan to the Bolsōru pass and over much broken ground along an eastern outlier of the Paskōhak massif to 'Aliābād. Similarly essential points in Curtius's description of the march are supported by the physical features of the ground. The half-way halt between the two night marches was necessarily imposed by the very trying nature of the ground. For the rapid advance of the detachment under Philotas and Coenus towards the plain the route struck beyond the Bolsōru saddle and leading over the Ardakān plateau to Kulār and Marw-dasht offered indeed that easy and fertile ground which the text mentions.

That after reaching the rim of the plateau on the Bolsōru saddle the line for Alexander's turning movement lay to the right, *i.e.* south-east, is seen from the map. Finally the references to deep-cut ravines and thick tree-growth encountered on this latter portion of the march are fully in keeping with what our journey from Bijeshki up to Gōr-espīd had allowed me to observe of the hill chain southward.

We have now followed Alexander over ground where nature had threatened to baffle him by difficulties greater than any that had faced him in the course of his victorious advance from the Aegean to the heart of the Persian empire, and greater perhaps than any he and his brave Macedonians were ever to encounter thereafter within Īrān. The triumph here gained by his tactical genius and his men's endurance may well have served to inspire his veterans with that amazing pluck and confidence which they were called upon to display years later when besieging Aornos far away on the Indus, or at the hazardous crossing of the Hydaspes before the battle with Porus.

Section iv—QAL'A-SAFĪD AND THE FAHLIŪN VALLEY

After leaving the gorges of the Tang-i-khās and Tang-i-Gerrau behind further progress along the ancient route was bound to seem invitingly easy. But before starting on it a visit had to be paid to the high table mountain known as Qal'a-safīd, 'the White Castle'. It rises as a great isolated massif of limestone to the south of the debouchure of the Shash-pīr river. Local belief identifies this great natural stronghold with the Diz-i-safīd of the Shāh-nāmeh,

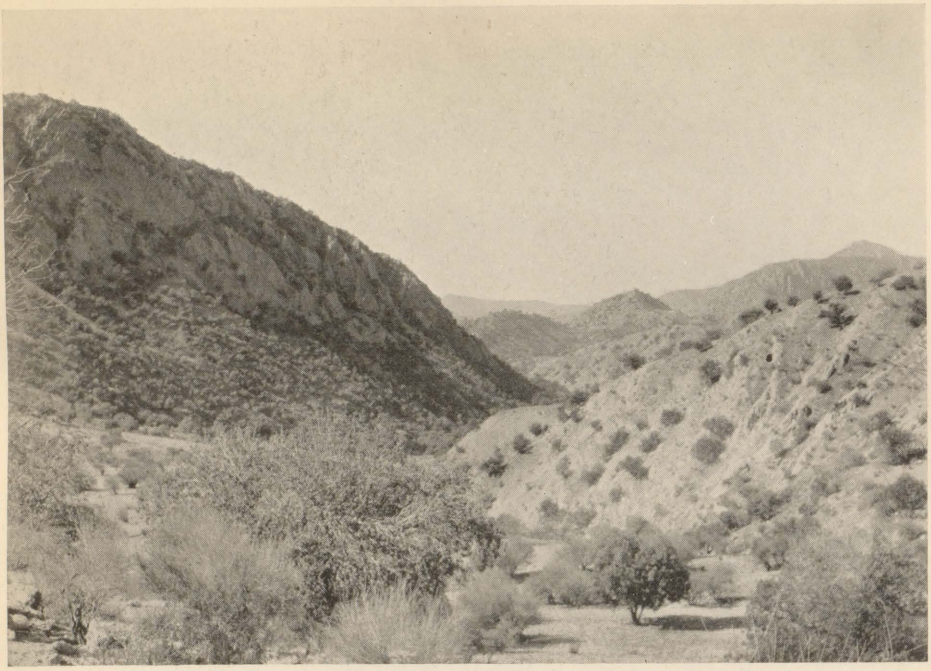
the scene of one of Rustam's great legendary exploits. But on better foundation rests the local tradition which recognizes in Qal'a-safīd the great fastness taken by Tīmūr's force after it had resisted all earlier invaders of Īrān; for the detailed account given by Sharīf-ud-dīn of Tīmūr's march from Behbehān to Shīrāz records his capture of Qal'a-safīd exactly in this position. With this agree also the notices found in other later Muhammadan works, which place Qal'a-safīd in Shūlistān, a name still applied to this portion of the Māmasānī hill tract, or in the vicinity of Naubanjān, on the route from Fahliūn to Shāpūr.[1]

The large flat-topped mountain rises close on 3000 feet above the wide riverine plain of Fahliūn. With almost vertical limestone cliffs girding it on all sides, as seen from where our camp lay below, it looked indeed like a great natural fortress such as would invite occupation for safety from early times. But the existence on it of structural defences or other old remains had been doubted by so competent an observer as Professor Herzfeld, who had passed in full view of the mountain but was prevented by his conditions of travel from ascending it.[2] Nor did the description given by Lieutenant McDonald, who in 1810 appears to have been the first European visitor to the mountain,[3] furnish any definite evidence of the existence on it of ancient remains. Accompanied by Surveyor Muḥammad Ayūb Khān and M. Bahmān Karīmī I started

[1] For a still useful summary of these notices, see Ritter, *West-Asien*, iii. pp. 137 sqq. The early Arab geographers do not seem to mention the stronghold unless its identification with the Qal'āt-al-jiṣṣ of Iṣṭakhrī, 'the Gypsum fastness', is justified; cf. Schwarz, *Iran im Mittelalter*, p. 129.

[2] See *Petermann's Mittheilungen*, 1907, p. 85.

[3] See Malcolm, *History of Persia*, i. pp. 19 note and 295, as quoted by Ritter, *l.c.* p. 137.



5. VIEW DOWN TANG-I-GERRAU ON WAY TO SHASH-PĪR STREAM



6. REMAINS OF PUL-I-MŪRD ON LEFT BANK



7. CLIFFS OF NORTH-WESTERN FACE OF QAL'A-SAFĪD

early in the morning of November 30th for the fastness, glad to let our tired mules enjoy a day's rest in camp. At the small village of Bahlu, nestling by a fine spring and luxuriant orchard in a fold of the mountain, we were joined by Khalīl Khān, an intelligent Māmasānī chief, holding much of the fertile plain below. I had been told of a single path by which horses and unladen mules could be taken right up to the top. But we had scarcely covered one-half of the steep ascent on the rocky spur over which this path leads up from the west when we had to dismount and continue on foot. It was a hot climb, and the shade given by scattered clumps of oak trees was grateful.

At an elevation of about 5500 feet the steep spur we had ascended came abruptly to an end at the foot of a girdle of bare wall-like cliffs (Fig. 7). They would suffice to make the mountain-top altogether unassailable on this side were it not for an extremely precipitous track, in most places scarcely more than a couple of feet wide, which winds up among fallen masses of rock and over narrow ledges of limestone for some 400 feet of vertical height. I should not have thought this climb practicable for led horses. But Khalīl Khān was anxious to get our beasts along as he could promise water and grazing for them on the top.

More gratifying it was to me when, clambering up this rock ladder, we came within sight of what proved a small defensive work guarding a gateway built across the approach to a narrow terrace. The semicircular arch of the gateway and the construction of the walls with large rough stones set in cement indicated a Sasanian origin for this gate-house, known as Darwāzeh-shutur-khabz. To the south it is adjoined by a terrace built up to a considerable

height with similar masonry. From here we had to clamber up a stair-like succession of bare rock ledges, until a little below the edge of the plateau the slope became less steep, bearing some grass and tree growth. Here we passed a small spring and some built-up terraces bearing debris from small ruined quarters. Finally the western rim of the plateau was reached at an elevation of about 5900 feet.

The top of the mountain, roughly quadrangular in shape as rapidly sketched on the plane-table, measures about 4 miles in circumference. Small nullahs, due to erosion, shallow above but running into narrow deep-cut ravines lower down, divide the plateau into four well-marked ridges. These stretch out finger-like from a knoll in the south which marks the highest point at an elevation of about 6000 feet, their directions approximately bearing between north-west and east-north-east. All are fairly flat on the top and for some distance slope down gently towards the Shash-pīr valley (Fig. 8) until their northern ends break off in cliffs. Oak and other trees grow on all these ridges and their slopes wherever the ground does not show a bare limestone surface. Elsewhere the soil is fertile and could well be planted with vines and fruit trees. The nullah dividing the two middle ridges holds near its head, at an elevation of about 5800 feet, a perennial spring said to suffice at all time for fifty to sixty households. Smaller springs lower down in the nullahs may hold water for a time after the rain and snow of the winter.

It was along the north-western ridge near the edge of the plateau that abundant remains of former occupation could be traced over a total distance of some 1100 yards. Among the debris from stone-built walls of completely

decayed dwellings fragments of glazed pottery, many multi-coloured, and pieces from glass vessels and bangles could be picked up in plenty. One of the multicoloured sherds shows Chinese design. At a distance of about 125 yards below the highest point of the plateau there survives the ruin of a house built with large roughly cut stones set in very hard mortar (Fig. 9). It forms a square of about 20 yards outside, and within shows dividing walls of small rooms surrounding a court. The arch of the door on the north side giving access to the court is semicircular and intact. Of a similarly constructed house, some 380 yards farther down, the walls still stand to a height of 4-5 feet. From this ruin stones had been carried off to two modern huts and set in rough courses without mortar. Below this built-over part of the ridge for about one-third of a mile there was flat fertile ground which in recent times had been planted with vines, some of the trailing branches still showing life. A narrow offshoot of this range was said to be approachable from below by a difficult track leading through a walled gateway known as Gulistān-darwāzeh. The track is impracticable even for led animals.

Near the above-mentioned spring between the two middle ridges there lies a square cella with solidly built walls of old appearance, repaired with later rough masonry. It contains some inscribed Muhammadan tombstones, and is supposed to be the resting-place of a holy man named Ḥājī Rustam. The third ridge running almost due north, at first with a fairly level top, was followed to a point where it breaks off with wall-like cliffs. From here could be seen, some 400 feet below, a solidly built semicircular wall closing access to the gorge on the western side of the ridge with

three small ruined structures inside it. This 'gate' is known by the name of 'Kullah Jerīn'. The path leading to it from the foot of the mountain was declared to be very difficult even on foot. The fourth ridge falls off with precipitous cliffs into the narrow valley of Tang-i-Gusangūn, and forms the eastern edge of the plateau. Want of time prevented its being visited by me, and thus the position of the 'gate' of Siāh-shīr reported to guard access to the plateau from that side could not be ascertained.

None of the remains above briefly described can be dated further back than Sasanian times. But there can be no doubt that the mountain of Qal'a-safīd must have served from a very early period as a safe place of refuge for tribes holding the neighbouring hills. Owing to the great extent of its circuit complete blockade must have been practically impossible, and owing to the rock walls protecting the top assault in old times would have had no chance of success as long as the few points of access were guarded by determined men. That the grazing and water available on the plateau would suffice for a considerable number of cattle is proved by the annual migration there of nomadic Jāwī herdsmen. But while the strength for defence afforded here by nature is great, it is equally certain from a look at the map that the position of Qal'a-safīd could not have been of military importance for barring the ancient caravan route leading up to the plateaus of Fārs.

After a steep descent from the rocky height, more troublesome even than the ascent, had brought us back to camp long after nightfall, we started on the morning of December 1 for the move down the Fahliūn valley



8. VIEW FROM TOP OF QAL'A-SAFĪD TOWARDS TANG-I-KHĀṢ VALLEY
Valley of Shash-pīr river in foreground



9. RUINED DWELLING ON QAL'A-SAFĪD



10. REMAINS OF WALL ON EAST SIDE OF KŌTAL-I-SANGAR



11. KŌTAL-I-SANGAR PASS WITH RUINED WALL LINE, SEEN FROM NORTH

(see Sketch Map I). Its floor for close on 10 miles is a flat alluvial plain gradually widening to the north and mainly covered with rice-fields. To the east it is overlooked by the rugged table-mountain of Qal'a-siāh, similar in formation to the Qal'a-safīd but lower and reported to be devoid of any trace of ancient occupation. Over an easy saddle to the east of Qal'a-siāh the old caravan route continues from the mouth of the Tang-i-Gerrau towards the northernmost portion of the Fahliūn valley. The wretched habitations in the succession of hamlets passed on our way along the riverine plain bore testimony to the miserable conditions to which many years of constant insecurity and intertribal fighting had reduced the settled Māmasānī community in this naturally fertile tract. In addition to general poverty, the effects of malaria were reflected only too plainly in the appearance of the people.

After some four miles our track struck the road, now made practicable for motor traffic, which leads in an open side valley southwards past the large village of Nūrābād to Shāpūr and Kāzarūn. Near Nūrābād lie the decayed remains of the site of Naubandagān, which Arab geographers mention as an important town on the high-road from Khūzistān to Shāpūr and thus on to Shīrāz.[4] It is this road which was once served by the great ruined bridge crossing the Fahliūn river at the village of Tul-i-gar. Six broken piers still rise in the wide river-bed, while others towards the right bank, as well as all the arches, have completely disappeared. The masonry of roughly hewn slabs set in regular courses and facing the concrete core of the piers resembles so closely that of the ruined

[4] See Schwarz, *Iran im Mittelalter*, pp. 34 sq., 177.

bridges at Tang-i-Brīn, Khairābād, Arrajān, etc., to be described further on, that there can be little doubt about this bridge, too, dating from the early period of Arab domination.[5] Hence it may be safely identified with " the bridge of remarkable construction and mighty dimensions " which is mentioned by Yāqūt and before him by Muqaddasī as on the way from Arrajān to Naubandagān.[6]

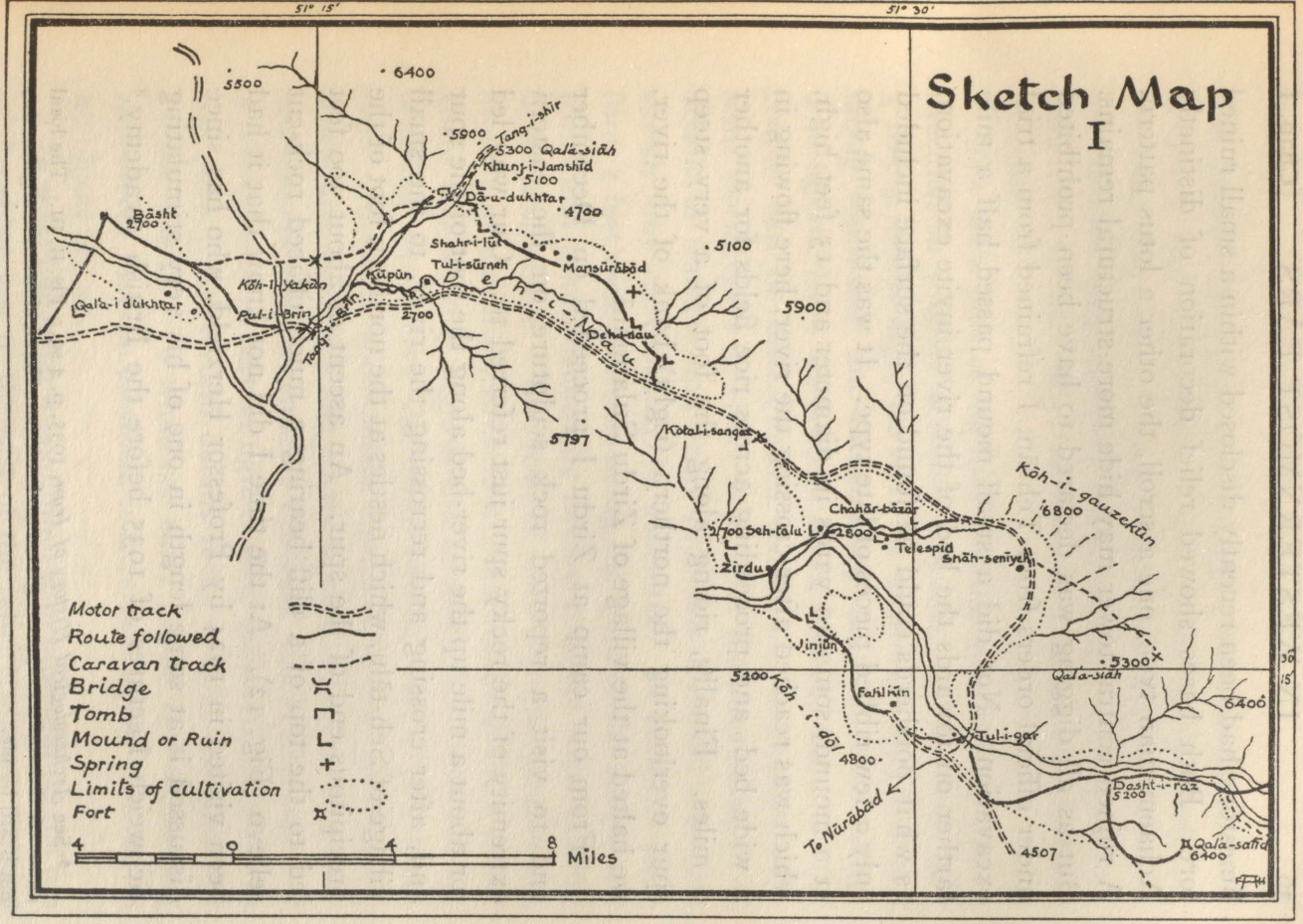
The use of the road diverging through the Fahliūn and Shāpūr valleys towards Kāzarūn and Shīrāz for early medieval traffic is well attested by the Arab geographers. It is also distinctly easier, though much longer than the one leading up the Tang-i-khāṣ through the ' Persian Gates '. Hence it can scarcely be subject to doubt that this was the ' main road ' by which " Alexander sent off the baggage trains, the Thessalian cavalry, the mercenaries, and all the other heavier-armed troops of his army with Parmenio ".[7]

Continuing our march 2 miles farther along the foot of low hills known as Kōh-i-Dōl, we reached the group of three wretched hamlets collectively called Fahliūn. Here a visit was paid to the military officer maintaining order among the settled Māmasānīs. Then crossing a saddle in the low ridge round which the Fahliūn river farther east makes its sharp westerly bend, to be mentioned presently, we went on for some 3 miles to the group of hamlets known as Jinjūn. At the westernmost of these two bases of black marble-like

[5] See below, pp. 48 sqq., 71 sqq., 82 sqq.

[6] Cf. Schwarz, *Iran im Mittelalter*, p. 38. The place al-Khubadhān, near which the bridge is stated to have stood, may safely be located at the walled village of Tul-i-gar occupying a small mound. The identity of the river of al-Khubadhān with the Fahliūn river was correctly recognized by Tomaschek, *Zur historischen Topographie von Persien*, i. p. 176, quoted *ibid.*

[7] See Arrian, *Anabasis*, III. xviii. 1 ; also above, p. 19.



I. SKETCH MAP OF PORTIONS OF FAHLIŪN, DEH-I-NAU, BĀSHT TRACTS FROM PLANE-TABLE SURVEY (FIELD RECORD, SUBJECT TO ADJUSTMENT)

limestone had been recently disclosed within a small ruined fort. Both bases showed relief decoration of distinctly Achaemenian type, one a scroll, the other a lotus pattern. A ruined central tower may hide more structural remains. But as all digging was declared to have been prohibited under official orders from Tehrān, I refrained from a trial excavation. Nor did a small mound passed half a mile farther on towards the bed of the river invite excavation, as what potsherds could be found on the surface included only a few ribbed pieces of late type. It was the same also at a mound, some 40 yards in diameter and 15 feet high, which was reached after crossing the river, here flowing in a wide bed, and proceeding across rice fields for another 2 miles. Finally, riding along the foot of a very steep spur overlooking the northern (right) bank of the river, we halted at the village of Zirdu Sulaimānī.

From our camp at Zirdu I proceeded on December 2nd to visit a reported rock sculpture on the eastern extremity of the rocky spur just referred to. Our way led for about a mile up the river-bed along the foot of the spur and, after crossing and recrossing the river, to the small village of Seh-tālu, which nestles at the northern foot of the precipitous end of the spur. An ascent of about 300 feet led to the top of a cliff bearing a much effaced rock-cut relievo (Fig. 12). At the time I did not know that it had been visited in 1924 by Professor Herzfeld, who has since discussed it at some length in one of his very stimulating Schweich Lectures of 1935 before the British Academy.[8]

[8] See *Archaeological History of Iran*, 1935, p. 4 sq.; Pls. II, III. The local name of the rock sculpture, given to Professor Herzfeld as *Kurangūn*, was not heard by me.

The general character and iconographic interest of rock sculpture had been treated with special competence by Professor Herzfeld. I may therefore confine my account here to such supplementary details as regards the position, size, etc., of the relievo as are not touched upon in his account.

The main part of the rock carving, all showing figures executed in profile, occupies a panel, 23 feet long and 5 feet 4 inches high, carved just under the top of a cliff facing south-west and overlooking the wide river valley. The figures have all become much effaced, but a divine couple can be distinguished seated in the middle with some worshippers on either side. For the interpretation of details in features and dress Professor Herzfeld's outline sketch may conveniently be consulted. A rock-cut platform 4 feet wide stretches along the front of the sculptured panel and is approached by narrow rock-cut steps leading down from above. Two rows of small figures representing attendants uniformly dressed in coats reaching down to the knees and wearing pigtails can be made out more clearly, standing one above the other by the side of the staircase. More of such small figures are seen below this, where the rock face has partly broken off. In the representation of these attendants Professor Herzfeld recognizes a resemblance to certain figures from Asia Minor, while in the main panel certain details recall to him Sumerian or Hittite motifs. To whatever early period this interesting monument may be ascribed, it is certain to have served as an object of cult.

In this connexion it is of interest to note that on the top of the ridge just to the east of the relief sculpture remains

of two small apartments are found, partly cut into the rock and partly closed by walls showing rough blocks of stone set in mortar. These rooms, one measuring 18 feet 8 inches by 9 feet 6 inches and the other 9 feet 8 inches by 9 feet 3 inches, communicate by a narrow round-arched doorway. Remains of steps in the corner of the larger room suggest access to an upper floor. It appears very probable that the rooms belonged to quarters occupied by priests. The position chosen for this cult place became more easily understood when I noted that, about 100 feet lower down, the eastern extremity of the ridge is crossed by a narrow path partly improved by cutting and rough paving, and obviously ancient. This descends to a path, leading in places over rock-cut steps, which winds along the foot of the cliffs above the river and is still used for communication with Zirdu whenever the river becomes unfordable.

To the east and north-east of the ridge stretches a belt of fertile alluvial ground irrigated partly from the Fahliūn river and partly from small streams descending from the Kōh-i-Gauzekūn to the east. Ancient occupation is attested by several debris-mounds now occupied by small villages. Among these Tel-espīd (the 'White Mound'), near which our camp stood, is the most conspicuous. Its conical height bears the small fort of Khurshīd Khān, the chief local landowner, while an agglomeration of wretched mat-covered huts clothes the slopes. Here, as well as at the villages of Chahār-bāzār and Kushkak, the heavy accumulation of refuse on the slopes would not allow indications of ancient remains, if any, buried in the strata below to be seen on the surface. Proceeding south-eastwards for about 4 miles beyond Tel-espīd by the old track

which leads behind Qal'a-siāh to the mouth of the Tang-i-Gerrau, I found the glacis of the hillside covered with abundant debris from decayed stone walls. Similar remains of old village sites were said to be visible also higher up as far as the mouth of the pass known as Kōtal-i-Nīgel, beyond the group of largish villages collectively bearing the name of Shāh-senīyeh. The line of an ancient canal carried on a built-up channel or else cut into the rock could be traced for a considerable distance along the foot of cliffs. There was ample evidence of this ground on the ancient caravan route having been at one time closely cultivated.

SECTION V—FROM KŌTAL-I-SANGAR TO BĀSHT

Our march on December 3rd led along this ancient route, now improved into a motorable track, to the north-west. For about 4 miles it lay over a gently ascending peneplain, cultivated in patches, scrub-covered elsewhere, until we reached the broad saddle known as *Kōtal-i-Sangar*, 'the Pass of the Stone Wall', forming the watershed towards the Deh-i-nau valley. At an elevation of about 3000 feet the pass is commanded on the south by a flat-topped spur (Fig. 11), girt at its foot by very steep cliffs rising to about 400 feet above the saddle, and on the north by wall-like precipices of a double-peaked mountain rising fully 1500 feet or more above the saddle (Fig. 10). The defile is crossed just to the north-west of the watershed by a badly decayed wall built with stones of large size and without mortar. This runs up the slopes on both sides to where the rock faces become almost vertical. The wall

where least decayed still stands to a height of 5-6 feet with an average thickness of about 5 feet. From the cliffs on the north it runs for about 830 yards down to the lowest portion of the saddle. There it is crossed first by an old canal descending from the valley of Darra-i-Anjīreh in the north-east and then by the road. Here for some 80 yards it has been completely effaced by erosion. Thereafter the line of the wall is traceable right up to the foot of the cliffs to the south for an estimated distance of some 450 yards.

Judging from its position on the slope below the watershed and from its rough construction, the wall seemed to have been intended more for a barrier to control traffic passing through the defile than for effective defence. All the same it bears the character of a regular *chiusa*. The far advanced decay of the portion exposed to erosion and the massive, if rough, construction point to considerable age. Taking into account the fact that the line passing through the defile is the one which the important ancient high road was bound to follow owing to geographical features, the conclusion suggested itself that the wall marked a place where the hillmen in ancient as well as in modern times could conveniently levy dues on traffic passing through their territory.[1] These considerations make me strongly inclined to believe that we may safely locate here an episode related by Arrian and Diodorus on

[1] The name of *Sangar-i-Nādirī* which Professor Herzfeld (*Petermann's Mittheilungen*, 1907, p. 84) notes as being applied to the wall, indicates local tradition about the great age of the *chiusa*. Popular belief all over Persia is apt to connect remains of any antiquity with the great name of Nādir Shāh. It is obvious that so powerful a ruler had no need to build such a wall either to defend the passage or to have transit dues levied.

Alexander's march from Susa towards the Persian Gates. As Arrian tells us (*Anabasis*, III. xvii.) : [2]

" Leaving Susa and crossing the river Pasitigres, Alexander invaded the land of the Uxians. Of these some, who dwelt in the plain lands, had obeyed the Persian satrap, and now surrendered to Alexander ; but the Uxian hillmen, as they are called, had not owned allegiance to the Persians, and on this occasion sent to Alexander and stated that they would on no other terms permit him to pass that way towards the Persians with his army unless they should receive what they usually received from the Persian king whenever he made a progress that way. Alexander sent them away, bidding them come to the pass ; which, while they held it, made them feel that the way through into Persia was in their hands, there to receive the accustomed payment from himself also.

" Then he, taking with him the royal bodyguards, and the Hypaspists, and some eight thousand of the rest of the army, during the night marched by another than the obvious road, being guided by the Susians. Then passing along a rough and difficult path in one day, he fell upon the Uxian villages, captured a great deal of plunder, and slew many of them, being yet in their beds ; the rest escaped to the hills. Then he marched quickly to the pass where the Uxians were likely to oppose him in full force, in order to exact the customary toll. But he sent Craterus even farther in advance, to seize the heights, whither he imagined the Uxians, if forced away, would retreat. But he himself came on at full speed and getting first to the pass secured it, and with his men in due battle order he led them from a commanding position to attack the barbarians. They, however, astounded at Alexander's swiftness, and overmastered at the very position in which they had chiefly put their trust, fled without so much as coming to close quarters. Some of them fell by Alexander's troops in the flight, and many also on the way, which was precipitous. The greater

[2] The translation here given is the one in ' Arrian with an English translation by E. I. Robson ' (Loeb Classical Series, 1929), with a few slight modifications suggested by the context.

number, however, escaped to the hills, where they encountered Craterus' force and were by this destroyed. These were then 'gifts' they received from Alexander; and it was only with difficulty that they obtained their request from him that they might retain their own territory and pay tributes to Alexander every year."

A perusal of Arrian's account makes it clear that the pass at which Alexander bade the Uxian hillmen wait for payment was situated on the high-road leading through their hills towards the 'Persian Gates'. And on this road, as determined by topography and ancient remains alike, from the Behbehān plain up to Fahliūn, there is certainly no point corresponding more closely to Arrian's text than the defile of Kōtal-i-Sangar described above. The Uxian hillmen's claim was obviously to 'tribal allowances', to use the term familiar on the North-West Frontier of India.

There political expediency, supported by the experience and tradition of earlier periods, has led the British administration responsible for, and interested in, keeping the main line of communication from the Panjāb into Afghānistān open for trade and traffic, to pay such regular allowances to the Afrīdī tribes holding the pass of the Khyber in return for their assuring safe transit to caravans and travellers. A similar arrangement is likely to have recommended itself also on the main route from Susiana to Persis. The payment of these 'allowances' is likely to have fallen into arrears during the struggle of Darius against the Macedonian invader, perhaps even earlier. Hence the demand addressed to the successor of the Achaemenian regime may not have appeared unreasonable to the tribal mind. Its cavalier treatment by Alexander

might well have served as an emphatic demonstration that the old order in the empire had now changed.

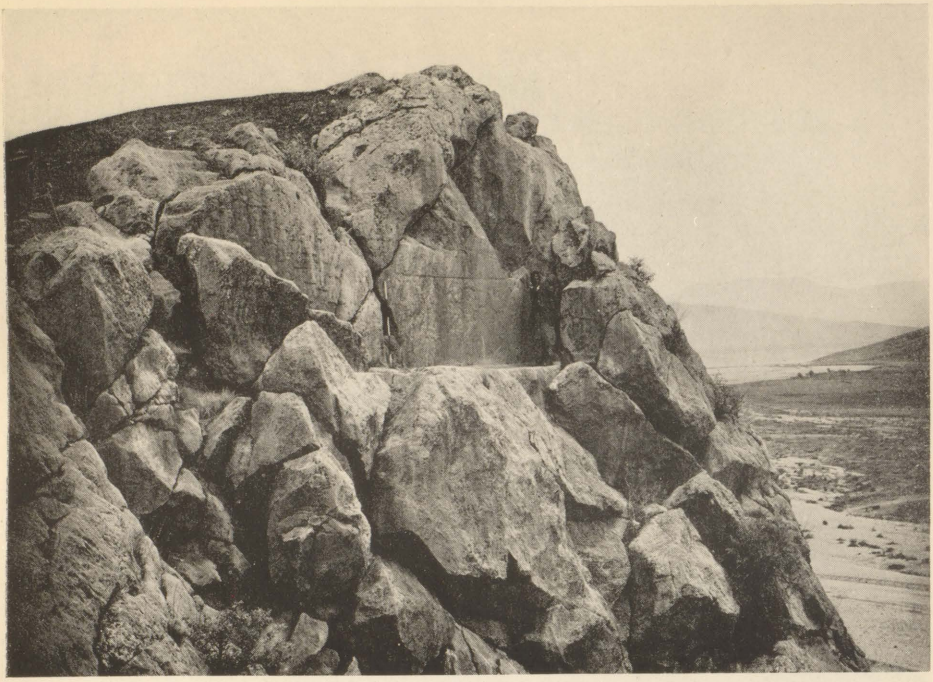
The account given by Diodorus (XVII. lxvii. 4, 5) is much shorter and omits any mention of the Uxian hillmen's claim ; but, though differing on some minor points, it confirms the location of the defile on the main road from the Susian plains to the Persian Gates. We are told that when Alexander had ascertained the difficulty of the pass guarded by a considerable force under Madetes, a relation of Darius, owing to the impracticable nature of the adjacent mountains, he sent troops under an Uxian's guidance by a narrow and risky track to gain a commanding position above the passage. When he himself had made his way towards it as far as practicable and had engaged the enemy holding the approaches, the unexpected appearance in a commanding position of the troops sent ahead caused the defenders to take to flight in a panic. Thus Alexander secured the passage and rapidly made himself master of all the Uxian towns.

The absence of detailed indications in Arrian's text and the want of an exact survey of the hills flanking the Fahliūn and Deh-i-nau valleys make it impossible to determine the exact line taken by Alexander in his turning movement. But the reference made by Arrian to the quantity of plunder taken in the Uxian villages makes it obvious that this move must have brought him into the Fahliūn tract; for this is by far the largest area of cultivable ground along the line of advance from the Behbehān plain towards the Persian Gates.[3]

[3] In discussing above the location of the defile to which Arrian and Diodorus refer I have left apart Curtius's lengthy story of the taking of an Uxian town

The valley of Deh-i-nau into which the 'Pass of the Stone Wall' led us is much smaller than that of Fahliūn but is abundantly watered, and with plenty of low grass cropping up on its floor after recent rain it looked very attractive. But this naturally fertile ground is so poorly occupied at present that it would have proved impracticable without incurring great delay to collect an adequate number of labourers for useful trial excavation at a number of small mounds in the upper portion of the valley. At two of these, known as Tul-i-Burg and Tul-i-Bundu respectively, small fragments of painted pottery with patterns recalling those from chalcolithic sites of Fārs as well as a few worked flints picked up on the surface indicated prehistoric occupation. The mounds rise to a height of 15-18 feet and stretch for a length of some 160 yards. Further down, near the hamlet of Mansūrābād, debris heaps from stone-built dwellings stretching for close on half a mile along the rocky foot of the northern hill-chain mark a considerable old settlement. A fine rivulet issuing here from springs feeds a winding lakelet of limpid water known as *Shahr-i-Lūt*, where popular belief, obviously influenced by the biblical legend, localizes a village destroyed for its evil ways. The sight of limpid water contrasted so delightfully with the aridity of the hillsides that it might have appeared more suited to invite bathing nymphs than to swallow up evil-doers.

protected by rocky heights (v. iii. 4-11). It shows a distinct resemblance to the above-mentioned accounts by telling of a small force which, sent over a difficult path through the mountains, gained a commanding height above the town and helped to secure its capture after an arduous siege by Alexander. But details concerning this siege cannot be reconciled with the forcing of a mountain defile. Is it possible that in Curtius's relation two separate operations on Alexander's march have been treated as one exploit ?



12. SCULPTURED ROCK ABOVE FAHLIŪN RIVER, AT SEH-TĀLU



13. ANCIENT BARRAGE AT SARĀB-DEH, DEH-I-NAU



14. ROCK-CUT TOMB OF DĀ-Ū-DUKHTAR, DEH-I-NAU

About 1½ miles farther west another rivulet fed from springs in a rocky bay near the cave dwellings of Khunj-i-Jamshīd passes a remarkably massive and fairly well-preserved barrage meant to store water for irrigation (Fig. 13). This consists of a wall built with rubble set in hard mortar, some 100 yards long, and about 10 feet thick in its lower portion. The masonry and the round arch of a central opening, obviously meant for regulating the outflow, suggest Sasanian origin for this fine piece of engineering. The remains of a ruined water-mill met a couple of hundred yards higher up seemed to date from the same period. Just below the troglodyte dwellings of Khunj-i-Jamshīd is seen a second ruined barrage, but not so well preserved, and probably of later date. Lower down, at the mound of Tul-i-Pashēdu, which rises to about 20 feet in height, the presence on the top of burnished and glazed potsherds pointed to occupation down to historical times. About a mile farther to the west we crossed the wide torrent-bed of the Tang-i-Shīr, draining the Naugak valley. High up in the hills to the north stood the residence of Imām Qūlī Khān, a renowned Māmasānī chief of the Rustamī tribe, who had owned most of the lower Deh-i-nau valley. He had rebelled a few years before, and was said to have since been executed at Tehrān with a number of Bakhtiārī notables.

Beyond the Tang-i-Shīr an early and very impressive monument of antiquity presented itself in a great rock-cut tomb on a high and very precipitous mountainside. From the pairs of double columns of reddish limestone carved in high relief on either side of the entrance to the tomb chamber it is known as *Dā-ū-dukhtar*, 'the Nurse and

Princess'. The ascent to it proved a very stiff climb of some 500 feet. From a narrow terrace at the foot of the vertical rock-wall below the tomb a good view of its front could be gained (Fig. 14). But I realized also that even had I not lost the toes of my right foot on a K'un-lun glacier it would not have been practicable for me to reach this. Fortunately a Kohgalu herdsman, whom we had picked up at the foot of the mountain, managed to clamber up like a spider over the narrowest fissures and toe-holds. He proved intelligent enough to handle a tape-measure given him and thus secure for us approximate measurements.

Below the front of the tomb the precipitous face of the cliff has been cut into a vertical wall 10 feet high. Its length, 18 feet, is the same as that of the platform, 4 feet wide, at the foot of the façade. Immediately below this is a step, 2 feet wide and 1 foot high. From this a porch about 4 feet 5 inches wide gives access to the entrance, 6 feet high and about 3 feet wide, leading into the tomb chamber. This was described to us as rectangular containing neither a burial-place nor any sculptural decoration. Above this chamber there exists another cavity of which an opening, like a window, is seen close to the top of the façade on the left. Roughly measured from there the engaged columns of the façade appeared to be about 14 feet in height, and the architrave divided into two faciae crowned with a battlemented cornice of seven gradini give at least 6 feet more.

The most striking architectural features of the façade are the quasi-Ionic capitals of the columns, which, with an abacus supporting the architrave, seemed to me to suggest

Greek influence. But Professor Herzfeld, who had first visited this monument and has briefly referred to it in his first Schweich lecture,[4] is prepared to ascribe it for quasi-historical reasons to an early part of the Achaemenian period and hence would rule out any Greek influence. As, however, no definite evidence is available for the attribution of the Dā-ū-dukhtar tomb, as suggested by him, to one of the three predecessors of Cyrus the Great, the question as to the interpretation of that architectural element as well as to the date of the tomb may still be left undecided. It seems even more difficult to account for the position chosen for so monumental a resting-place; for important as was the ancient route passing through Deh-i-nau, the valley itself is not likely to have ever served for a ruler's or great feudatory's seat.

Our camp, placed at Kūpūn, the westernmost hamlet of Deh-i-nau, was gained after crossing first the wide flood-bed of the Tang-i-Shīr stream and then two fairly deep water-courses draining the eastern portion of the valley. From there I visited in the morning of December 5th the conspicuous high mound known as Tul-i-Sūrneh, rising among irrigated fields a couple of miles to the east of Kūpūn. The mound, which is close on 100 feet high, measures some 400 yards in circumference on the top,

[4] See *Archaeological History of Iran*, pp. 32, 37, and the excellent photograph reproduced in Pl. v.

Professor Herzfeld has rightly called attention to the survival of capitals similarly recalling Ionic style in the wooden architecture of modern rustic buildings of Īrān, as illustrated *l.c.*, p. 32, Fig. 6. But it deserves to be noted that there is a still closer relationship between those capitals and the wooden double brackets with voluted ends excavated by me in several varieties from ruined dwellings of ancient sites in Chinese Turkistān dating from the 3rd to the 8th century A.D.; see *Serindia*, i. 491. The Hellenistic derivation of these Central Asian specimens through Graeco-Buddhist art can scarcely be doubted.

now occupied by a gendarmerie post. It commands a wide view over all parts of the tract and obviously marks a site occupied during prolonged periods. But only little of coarsely painted sherds could be picked up near the foot of the mound, while higher up on the slopes all ceramic fragments on the surface, like the traces seen of mortared walls, looked late.

A report received of ancient bridges made me proceed from Kūpūn to Bāsht, not by the usual track which crosses the Kōh-i-Yakūn in a due westerly direction, but by following down the picturesque winding gorge of Tang-i-Brīn in which the united waters of the Tang-i-Shīr and the Deh-i-nau streams break through that hill range. After about 6½ miles on emerging from the narrow gorge, which is clothed with fine oaks and other luxuriant tree growth at its bottom, I was surprised to come upon imposing remains of two ruined bridges at a short distance from each other spanning the river where it debouches into an open grassy plain. The river flowing in a deeply cut bed would be difficult to cross when in flood, and this explains why, since the successive destruction of the bridges once affording a safe passage, traffic had got diverted to the present route which avoids the river-bed. This in turn accounts for those remarkable bridges of distinct architectural interest having apparently remained unnoticed. Their examination provided quite a fascinating antiquarian task.

Several architectural features, such as the semicircular vaulting of the arches carrying the approach on either bank, the large slabs used for the facing of the piers and small vaultings found over some of the arches of approach, soon proved that the upper bridge was the older and probably

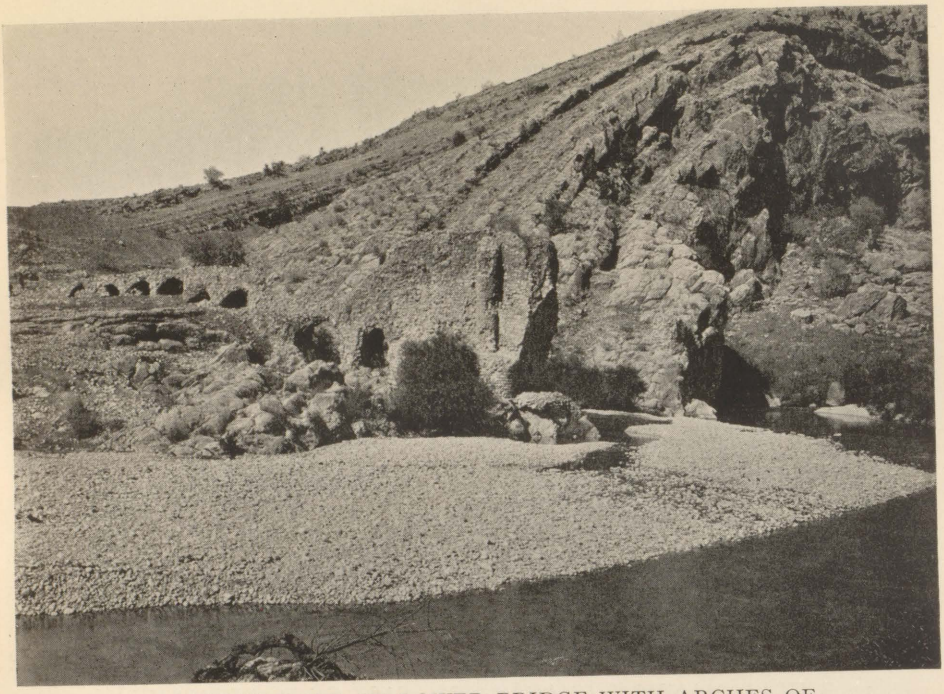
a work of Sasanian times. It spanned the river where it emerges from the gorge, with a width of some 60 yards, by a single bold arch. The massive piers of this central arch still rise in impressive strength, flanked by semicircular buttresses (Fig. 34) and triangular breakwaters at their up-stream foot. The height of the pier on the right bank is 45 feet and that of the breakwater as far as exposed above the rubble of the river-bed 5 feet more. In order to give access to this height and to the still greater height of the arch spanning the river, eight subsidiary arches of approach had been built along the foot of the hillside on the left bank (see Fig. 15, on left). On the right bank approach was provided by six high semicircular arches, each with a span of 8 feet. The roadway carried by the approach arches on either side was 10 feet broad. The arches on the left bank have a uniform span of 10 feet and their total length is 57 yards. The two arches next to the main pier on the left bank carry small vaultings meant evidently to reduce the weight above. On the inside these arches still retain a very hard stucco plastering, decorated with a roughly incised volute ornament.

The approach on the left bank to the upper bridge was extended at a later date by an arcade of fifteen more arches built along the foot of cliffs to provide access to the lower bridge (Fig. 16). The total length of this extension is 126 yards. The road carried by it is about 15 feet broad and is paved with roughly squared slabs. The pointed arches are built with rough blocks of stone set in mortar, which holds also fragments of bricks. The arches of approach on the right bank have completely fallen, and the four piers still extant which once carried them have badly

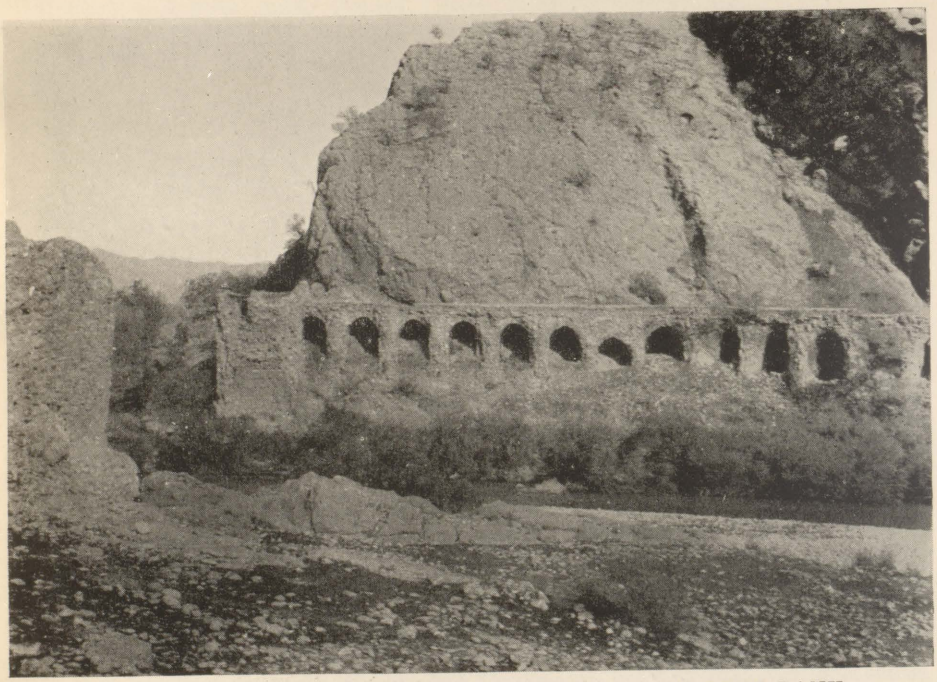
decayed owing to inferior construction. The lower bridge was thrown across the river-bed, here about 100 yards wide, by means of two large arches resting on an intermediate pier. The position of this is marked by two solid blocks of cemented masonry lying upheaved in the river.

Those who built the later bridge, probably in early Islamic times, had obviously tried to learn from the experience of what had befallen the still bolder central arch of the older bridge. The force of some exceptionally high flood may have defeated their aim also. The piers of the main arches are still standing on either bank and are massive enough in build, with rough stones set in mortar. They are not provided with buttresses. Their bases show a facing of roughly squared slabs of no great size set in regular courses. In this respect their masonry differs strikingly from that of the main piers of the upper bridge. There the core of cemented rough stones is faced with large cut blocks carefully dressed but not showing regular courses.

These large stone blocks appear to have been obtained from a completely ruined rectangular structure situated about 30 yards above the left bank pier of the upper bridge. All that remains of it is a base about 4 feet high, showing a core of cemented rubble with a bottom course of ashlar formed of large slabs. These show by holes where they had been secured by metal clamps long since removed. The slabs of the surviving ashlar course show a uniform height of 18 inches but vary in length. The survival of the rubble core of the structure proves that the ashlar facing above the bottom course had been quarried for use in the upper bridge. The base was completely broken on



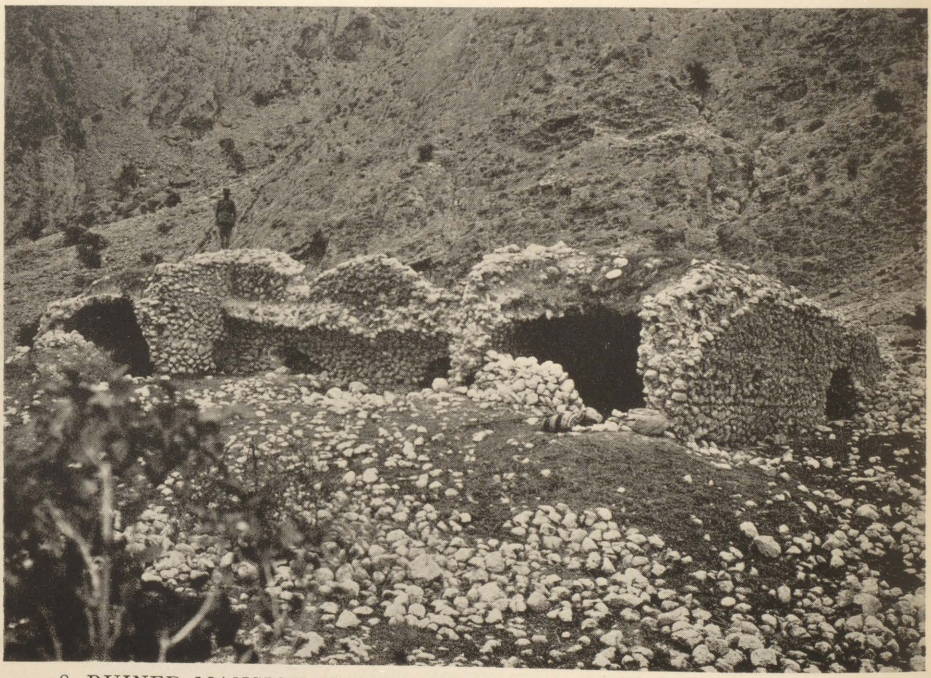
15. BRIDGE-HEAD OF LOWER BRIDGE WITH ARCHES OF APPROACH TO UPPER BRIDGE, PUL-I-BRĪN



16. PUL-I-BRĪN, WITH ARCHES OF APPROACH ON LEFT BANK TO LOWER BRIDGE



17. RUINED MANSION, CHAHĀR-DEH, EAST OF DŌ-GUMBADHĀN, SEEN FROM SOUTH-WEST



18. RUINED MANSION NEAR EASTERN END OF TANG-I-MALIŪN SITE

the western side; the surviving portion measured 39 feet along the eastern face with 19 to 24 feet remaining on the other two faces. The method of construction with metal clamps securing the large slabs pointed to the Achaemenian or the immediately succeeding period.

The purpose of the isolated structure once standing on this solid base seemed very puzzling until a block of massive stonework just opposite, high up on the precipitous rock face of the right bank, attracted my attention. It suggested that this small tower-like ruin and the massive structure once facing it on the much lower left bank may have served to anchor some kind of suspension bridge, older than either of the two ruined bridges. The bed of the river is here distinctly narrower than at either of the bridge sites. The approach on the cliff of the right bank is very narrow and rocky, but might, when built up, have admitted men on foot and led animals. In any case such a bridge, constructed like one of the 'rope bridges' or *jhūlas* in Kashmīr or the Hindukush, would have sufficed to assure communication whenever the river was unfordable.

That the old caravan road towards the Bāsht valley led here over the *Pul-i-Brīn*, as the site of the ruined bridges is known, is certain. Apart from the river passage it is an easier and more direct route than the one leading across the rugged Kōh-i-Yakūn. For the same reason I was not surprised to learn later on at Ahwāz that the construction of a bridge of some kind was being planned at the Pul-i-Brīn in order to make the track from Behbehān to Fahliūn throughout practicable for motor cars at all seasons. It must be hoped that if this proposal is carried

out the damage done by contractors quarrying in the ancient remains may not be too serious, and that the modern bridge may not share too soon the same fate as a certain bridge built with " unholy materials " in the Salt Range.[5]

[5] See my notes on the bridge built at Chōa Saidān Shāh with fine carved slabs from the shrine of Mūrti, *Archaeological Reconnaissances*, p. 52, note 10. See also below, p. 270.

CHAPTER II

IN KOHGALU TRACTS

Section i—FROM BĀSHT TO THE KHAIRĀBĀD RIVER

On reaching the valley of Bāsht we had left Fārs behind and entered the province of Khūzistān. We found Bāsht village, some 5 miles up the valley, once apparently a larger place and still the headquarters of a military district officer, reduced to some two dozen huts, and the fort of its late chief shelled into a ruin. Though Bāsht receives some water for irrigation from a high massif close on 10,000 feet in height and carrying old snow on its top, cultivation in the valley is very scanty, and the consequent delay in securing fresh fodder supplies for the onward journey necessitated a day's halt. Apart from a decayed quadrangular wall and ditch within which the hamlet nestles, and an abandoned village site with a large cemetery about 2 miles to the south, I did not learn of any old remains in the valley itself. The *Qal'a-i-dukhtar*, which was visited on December 7th on the way to Khān Ḥammād, our next stage, proved to be a ruined small fort crowning a narrow precipitous ridge at a height of some 4000 feet to the north of the nullah followed by the motor road.

The name of the ruin suggested antiquity. But when it was reached after a difficult climb we found only ruined

walls of rough stones and mortar, belonging to a fortified dwelling measuring some 54 by 48 feet, with potsherds including ribbed ware of uncertain date. Rough breastworks of loose stones suggested occupation as a place of refuge in recent days. But curiously enough no cistern or other provision for water, indispensable for defence, could be traced.

An easy march of some 8 miles through pleasantly wooded hill scenery brought us next to the roadside station of Khān Ḥammād. Three badly decayed cisterns on the road and three more by the side of a large ruined serai afforded evidence of the former traffic which this road had known, and also gave warning of the scantiness of water to be experienced farther on. It is of interest to note that Khān Ḥammād still retains the name of a station mentioned in itineraries of early Arab geographers from Arrajān, the forerunner of Behbehān, towards Naubandagān.[1]

The old route, which we continued to follow on December 8th, first led up very steeply through a narrow winding valley to the saddle of Kulak (*circ.* 3600 feet). While oak trees were still plentiful in the valley the distant view obtained to the west from the saddle across a wide plain traversed by parallel chains of limestone hills prepared us for a change to distinctly more arid physical conditions. On the descent tree growth soon ceased, and a succession of ruined cisterns showed how the want of water must have made itself felt from here onwards also for wayfarers of earlier times.[2] The cisterns are all of rect-

[1] See Schwarz, *Iran im Mittelalter*, pp. 6. 173, 175, 177.

[2] It is obviously due to this difficulty about water that travellers nowadays often take to a devious route in the north, passing through the valleys of Nārak and Boramiūn, where springs can be found. For a description of this route, followed by Professor Herzfeld, see *Petermann's Mittheilungen*, p. 83 sq.

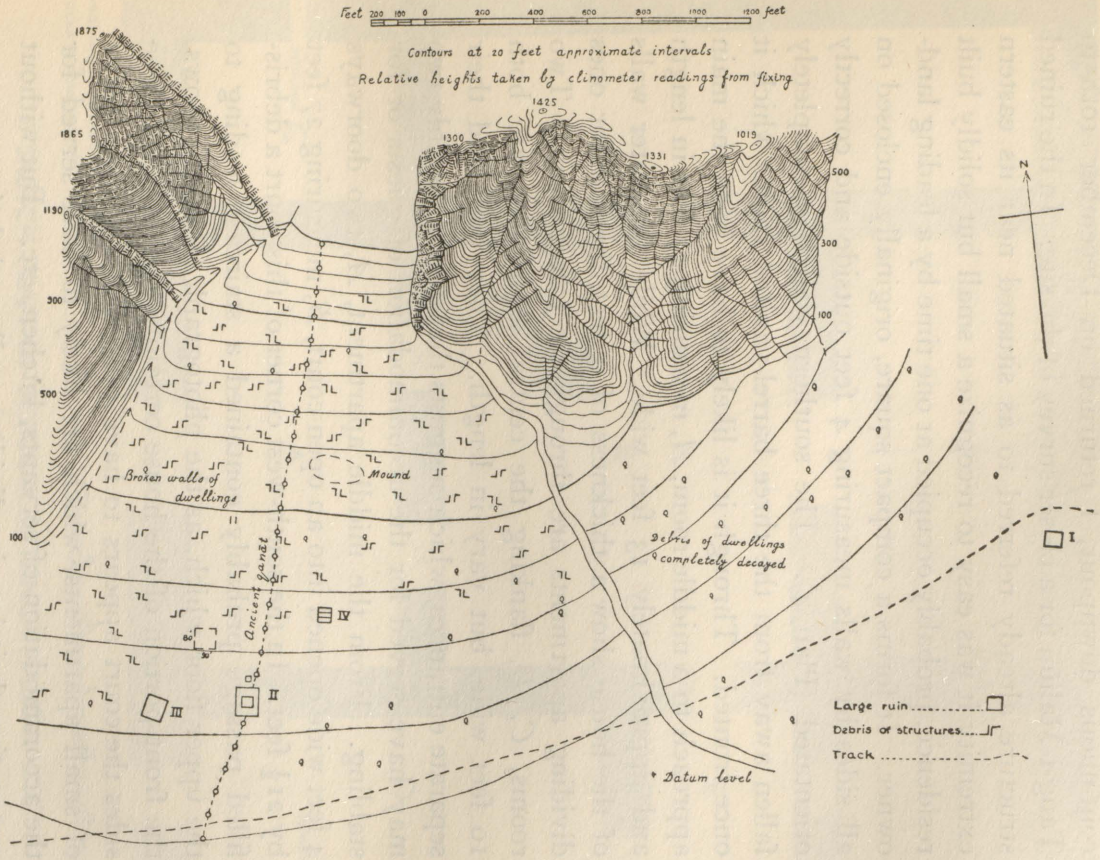
angular shape, constructed with cemented rough stone-work, and show for the most part uniform dimensions of 15 by 3 yards. In the case of some of them, built along the top of a narrow spur, it seemed difficult to understand how rain-water could have been expected to fill them. But that part of the fairly open valley through which the descent led must have been at one time cultivated was shown by numerous stone walls dividing fields, and also in places by debris from completely decayed dwellings.

No permanent habitations can be found now in the wide plain, measuring fully 5 miles across from east to west, where the lonely Mazār of Imām Ja'far was reached after a march of about 9 miles. Since the old *qanāt* traceable below the mouth of the valley of Nārak or Sharrafī to the north-east has ceased to bring water for irrigation, cultivation is carried on intermittently over patches of this ground from a few villages settled far away in neighbouring valleys. Conditions perhaps somewhat more favourable in prehistoric times seemed to be indicated by the presence of a low mound situated near a dry *wādī* to the north-east of the Mazār. It measures about 150 by 80 yards at its foot with a height nowhere more than 8-9 feet. Numerous small worked flints were picked up on its surface, but only very few fragments of plain pottery of uncertain type. The absence of labour precluded any attempt at trial excavation.

To the north-west of the Mazār the wall-like rock face of the Kōh-i-Sharrafī dominates the plain. A large mass of white limestone showing at an unscalable height of some 500 feet against the dark brown of the mountain face

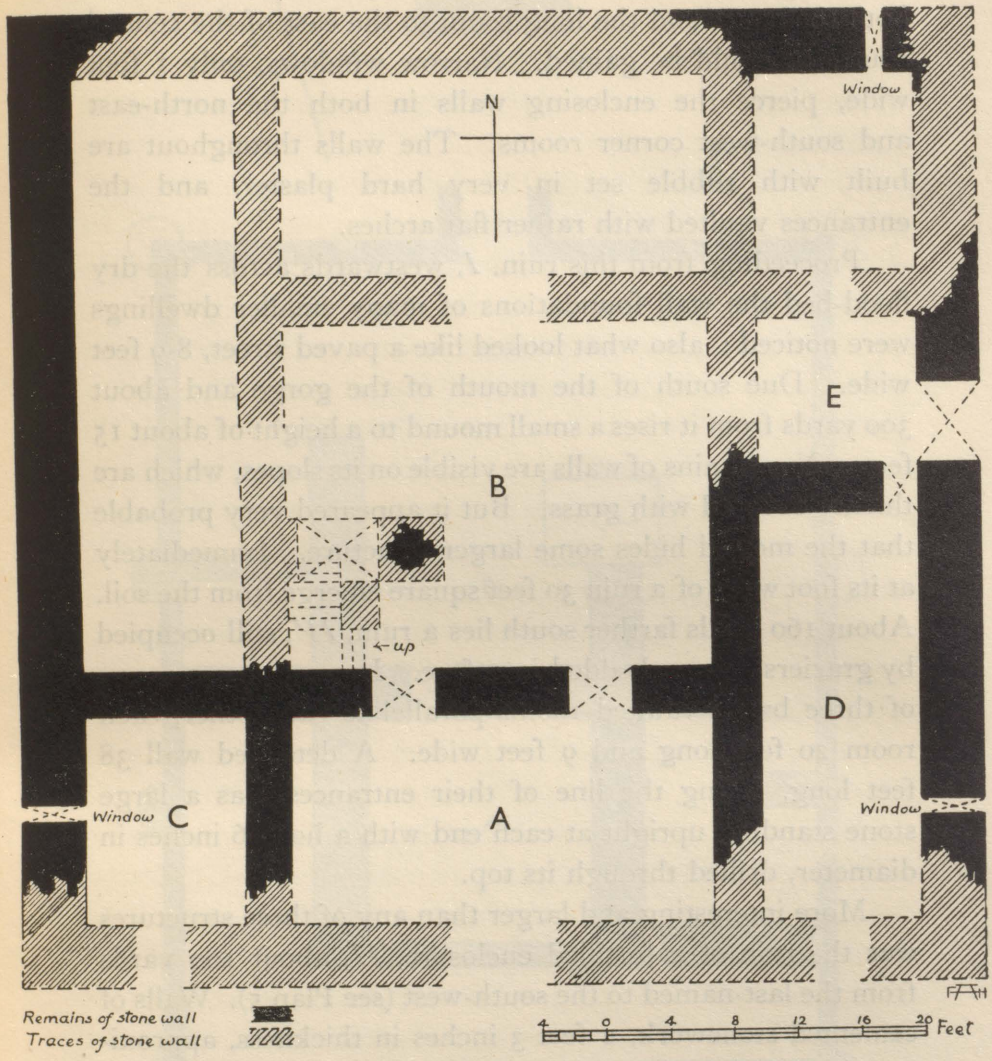
is supposed to mark a great treasure of gold, and is assumed, perhaps by a 'popular etymology', to account for the name of the mountain (*ashrafī*, a gold coin). I had been told of ruins near the western extremity of this rock wall, and on approaching the mouth of the narrow gorge of Tang-i-Maliūn at the end of the cliff, I came upon remains evidently belonging to a settlement of Sasanian times. They proved to extend for a distance of close on a mile from east to west over the alluvial fan below the mouth of the gorge and for about one-third of a mile from north to south where widest (see Plan 3).

To the east of a dry torrent bed descending from the narrow mouth of the gorge there were to be seen only scattered debris heaps from completely decayed walls. But to the west of this there emerged among the broken walls of many smaller dwellings several ruined structures of some size. One such ruin, *I*, somewhat better preserved than the rest near the easternmost limit of the site (Fig. 18), attracted special attention. A preliminary examination disclosed unmistakable structural features of Sasanian character. After a rough sketch plan had been made by dusk we had to proceed some 5 miles to the south in order to reach a camping-place with drinkable water at the village of Sarāb-nānīs. This place owes its existence to the forcible settlement, effected here some three years before, of some forty families of Kohgalu tribesmen previously nomadic. The water from a fine spring about half a mile below the village flows on to broken ground to the south-east, while the land assigned to the settlers some 3 miles to the north depends for its cultivation on rainfall only.



3. PLAN OF TANG-I-MALIŪN SITE, DEH-I-NAU

After a day's enforced halt at Sarāb-nānīs, due to a continuous downpour, I returned on December 10th to Tang-i-Maliūn for a closer survey of the site. In the ruined structure already referred to as situated near its eastern extremity it was easy to recognize a small but solidly built residence, probably occupied at one time by a leading land-owner. It forms a compact square, originally enclosed on all sides by walls measuring 4 feet outside and correctly orientated (Plan 4). The southern wall has completely fallen away from the three barrel-vaulted rooms which it once fronted. Through it is likely to have been the main approach to a middle room, *A*, measuring 27 feet in length and approximately 13 feet wide. While the outer walls of the house show a thickness of 4 feet, the interior ones dividing apartments are throughout 3 feet thick. Two rooms, *C*, *D*, flanking the central apartment, are both 10 feet wide, but vary in length. They both had their separate entrances, which suggests that one or possibly two may have served for the accommodation of guests or for stabling. From the middle apartment, *A*, two doorways 4 feet wide opened into an open court, *B*, measuring 27 feet by 21½ feet. In the south-west corner of this court a debris-filled passage probably contained a staircase leading to the upper floor which, as the photograph (Fig. 18) shows the front portion of the house certainly carried. On three sides the court appears to have been adjoined by a series of small apartments, which are likely to have served for the accommodation of servants, kitchen, etc. But without excavation their interior dividing walls and their entrances could not be determined. Through the middle of the eastern enclosing wall a doorway 5 feet wide led into a small

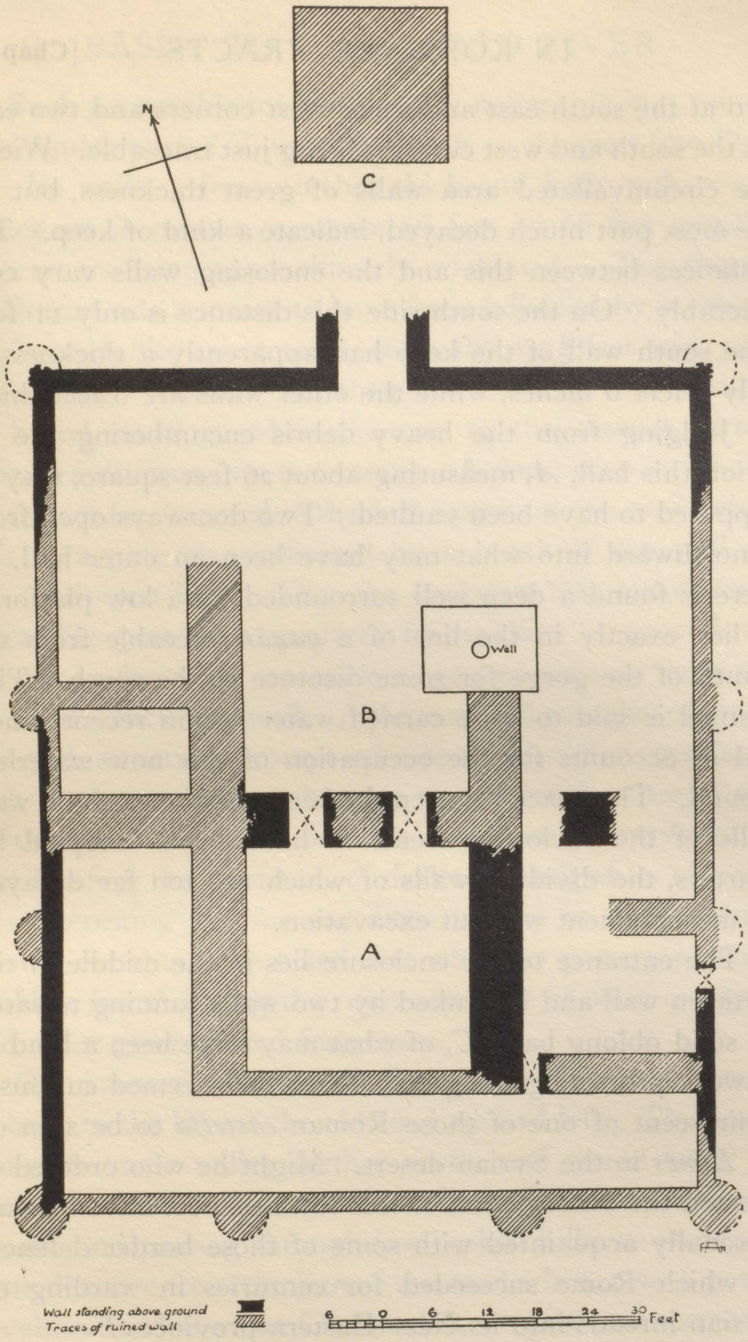


4. SKETCH PLAN OF RESIDENCE, TANG-I-MALIŪN SITE

entrance hall, *E*, measuring 9 feet by 10 feet, from which both the court and the long room to the east of the central court, *B*, could be gained. Narrow windows, only 1 foot wide, pierce the enclosing walls in both the north-east and south-west corner rooms. The walls throughout are built with rubble set in very hard plaster, and the entrances vaulted with rather flat arches.

Proceeding from this ruin, *I*, westwards across the dry flood-bed the wall foundations of many smaller dwellings were noticed ; also what looked like a paved street, 8-9 feet wide. Due south of the mouth of the gorge and about 300 yards from it rises a small mound to a height of about 15 feet. No remains of walls are visible on its slopes, which are thickly covered with grass. But it appeared very probable that the mound hides some larger structure. Immediately at its foot walls of a ruin 30 feet square emerge from the soil. About 160 yards farther south lies a ruin, *IV*, still occupied by graziers, but embedded in refuse. It comprises a range of three barrel-vaulted rooms parallel to each other, each room 20 feet long and 9 feet wide. A detached wall 38 feet long, facing the line of their entrances, has a large stone standing upright at each end with a hole, 6 inches in diameter, drilled through its top.

More interesting and larger than any of these structures was the ruin of a fortified enclosure, *II*, about 100 yards from the last-named to the south-west (see Plan 5). Walls of cemented stonework, 2 feet 3 inches in thickness, approximately orientated, form a rectangle measuring outside 97 feet from north to south and close on 79 feet across. They appear to have been strengthened by small bastions or buttresses too badly decayed for exact measurement,



5. SKETCH PLAN OF FORT, TANG-I-MALIŪN SITE

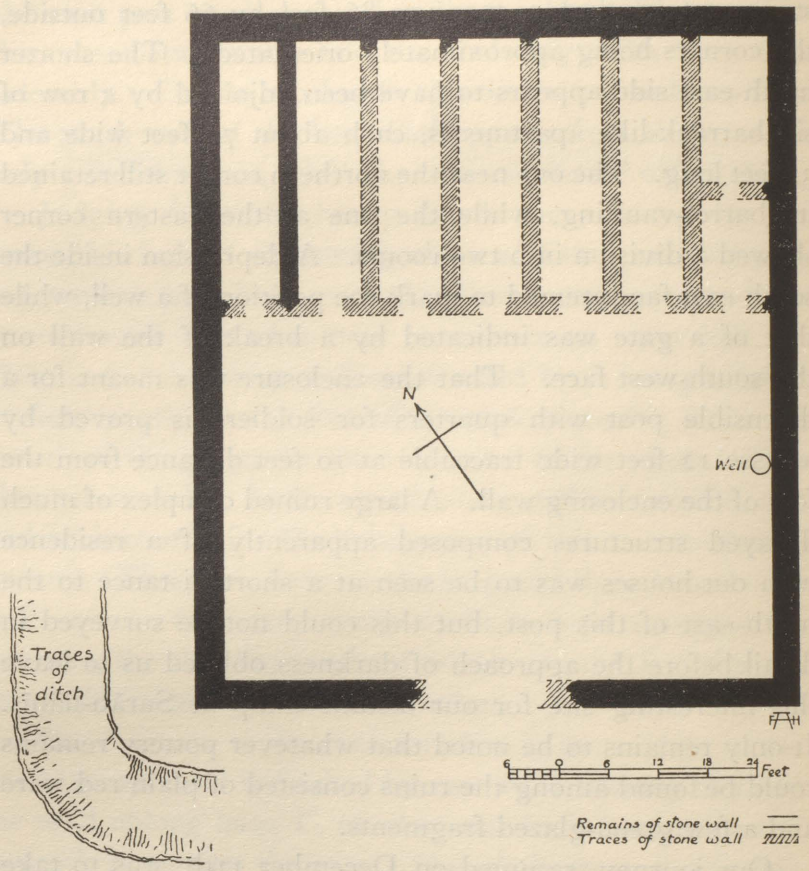
two at the south-east and south-west corners and two each on the south and west curtains being just traceable. Within the circumvallated area walls of great thickness, but for the most part much decayed, indicate a kind of keep. The distances between this and the enclosing walls vary considerably. On the south side this distance is only 11 feet. The south wall of the keep had apparently a thickness of only 2 feet 6 inches, while the other walls are 6 feet thick.

Judging from the heavy debris encumbering the interior, this hall, *A*, measuring about 26 feet square, may be supposed to have been vaulted. Two doorways open from it northward into what may have been an outer hall, *B*. Here is found a deep well surrounded by a low platform. It lies exactly in the line of a *qanāt* traceable from the mouth of the gorge for some distance to the south. This channel is said to have carried water within recent times, and so accounts for the occupation of this now waterless ground. The space between the keep and the east and west walls of the enclosure seems to have been occupied by quarters, the dividing walls of which are too far decayed for measurement without excavation.

The entrance to the enclosure lies in the middle of the northern wall and is flanked by two walls running towards the solid oblong base, *C*, of what may have been a kind of outwork protecting the gate. The whole seemed curiously reminiscent of one of those Roman *castella* to be seen on the *Limes* in the Syrian desert. Might he who ordered or directed the construction of this fortified post have become personally acquainted with some of those border defences by which Rome succeeded for centuries in warding off Persian inroads into its Near Eastern provinces?

Such a resemblance was equally noticeable in a ruined rectangular post, *III*, some 90 yards to the west (see Plan 6). Its walls, 3 feet 9 inches thick and built with rough stones set in mortar, measure 86 feet by 66 feet outside, the corners being approximately orientated. The shorter north-east side appears to have been adjoined by a row of six barrack-like apartments, each about $7\frac{1}{2}$ feet wide and 32 feet long. The one near the northern corner still retained its barrel-vaulting, while the one at the eastern corner showed a division into two rooms. A depression inside the south-east face seemed to mark the position of a well, while that of a gate was indicated by a break of the wall on the south-west face. That the enclosure was meant for a defensible post with quarters for soldiers is proved by a fosse 12 feet wide traceable at 10 feet distance from the foot of the enclosing wall. A large ruined complex of much decayed structures composed apparently of a residence with out-houses was to be seen at a short distance to the north-east of this post, but this could not be surveyed in detail before the approach of darkness obliged us to leave this interesting site for our distant camp at Sarāb-nānīs. It only remains to be noted that whatever pottery remains could be found among the ruins consisted of plain red ware and a few green-glazed fragments.

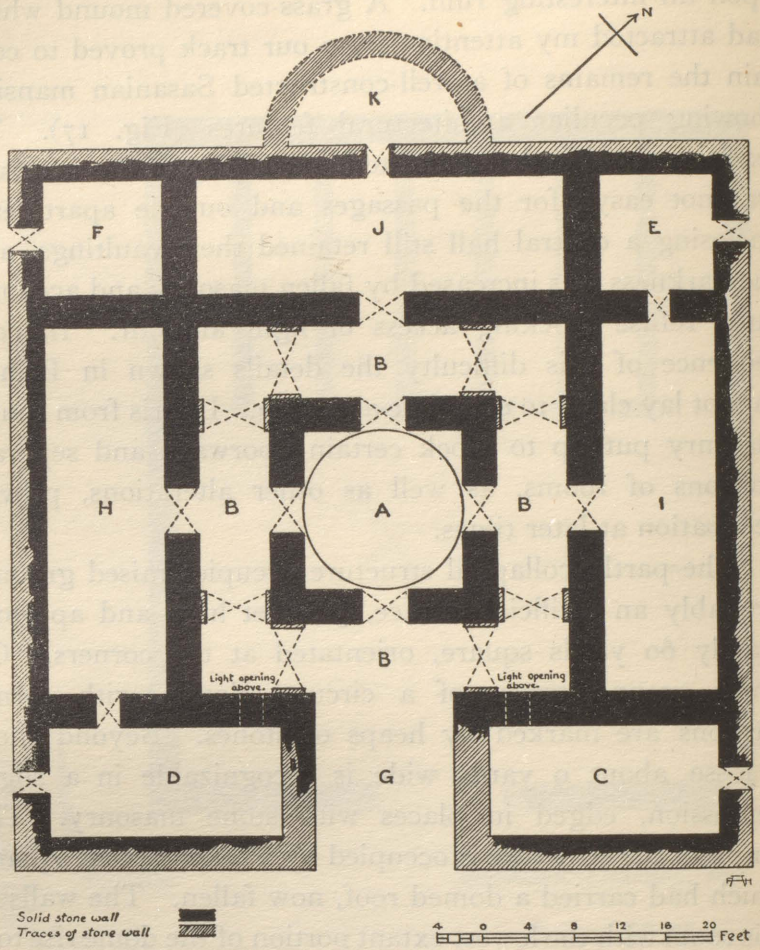
Our journey, resumed on December 11th, was to take us back to the line of the old road we had left. This leads along the main valley farther north, and would bring us to the small oasis of Dō-gumbadhān. But after marching 4 miles and passing through low broken hills we were still some distance from the line of the road when, near a patch of cultivation known as Chahār-deh, we came unexpectedly



6. SKETCH PLAN OF POST, TANG-I-MALIŪN SITE

upon an interesting ruin. A grass-covered mound which had attracted my attention from our track proved to contain the remains of a well-constructed Sasanian mansion showing peculiar architectural features (Fig. 17). To examine these in detail and to make a plan of the structure was not easy; for the passages and outside apartments enclosing a central hall still retained their vaultings, and the darkness was increased by fallen masonry and accumulated refuse blocking access of light and air. In consequence of this difficulty the details shown in Plan 7 cannot lay claim to complete accuracy. Debris from rough masonry put up to block certain doorways and separate portions of rooms, as well as other alterations, proved occupation at later times.

The partly collapsed structure occupies raised ground, probably an artificial terrace, 5-6 feet high and approximately 60 yards square, orientated at the corners. On lower ground traces of a circumvallation with corner bastions are marked by heaps of stones. Beyond these a fosse about 9 yards wide is recognizable in a slight depression, edged in places with stone masonry. The centre of the structure is occupied by a room 14 feet square, which had carried a domed roof, now fallen. The walls of this room with the lowest extant portion of the dome rise to a height of 15 feet or so above the floor level of the adjoining passage in its present debris-covered state. The maximum height of the ruin above the ground-level outside is about 23 feet. The central room, *A*, is enclosed within a square passage or corridor, *B*, 6 feet wide, from which four doorways, each 4 feet wide, open into it, one in the middle of each side. The barrel-vaulting of the enclosing passage is



7. SKETCH PLAN OF MANSION, CHAHĀR-DEH, DŌ-GUMBADHĀN

strengthened by a pair of semicircular archways, 3 feet wide at each of the corners.

On the south-east face access to the square passage is gained by an extrance hall, *G*, originally vaulted. It appears to have been about 12 feet wide and 16 feet long, but owing to far-advanced decay these dimensions are somewhat doubtful. This entrance hall is flanked by two rooms, *C*, *D*, measuring approximately 19 feet 6 inches by 9 feet 6 inches. A window-like opening 2 feet wide over the vaulting of each gave light to the passage behind. Both rooms have an entrance, 2 feet wide, on their narrower side. But only from *D* is access available to the gallery *H*, 32 feet 6 inches long and 10 feet wide, which adjoins the passage *B* on its north-west side. The corresponding gallery, *I*, on the opposite side has its access from the room *E*, 10 feet square, at the northern corner of the mansion. The room *F*, of the same dimensions, at the western corner has only one doorway, and that from outside. In this respect it conforms to the arrangement of room *C* at the eastern corner.

There still remains to be mentioned the apartment *J* on the north-western side of the mansion, corresponding in its dimensions to the galleries *H* and *I*. It may possibly have served for domestic purposes; the only place with which it communicates, apart from the interior corridor *B*, is a semicircular room, *K*. This is attached to the outside of the building with a wall thinner than the rest, and might perhaps have been used as a kitchen. All other walls have an average thickness of 3 feet. The masonry consists throughout of rubble set in hard mortar. Other details of construction could be definitely settled only by excavation;

but even those above indicated, together with the rough sketch plan, will suffice to show that the ruin of Chahār-deh presents a very instructive example of domestic architecture of Sasanian times.

Of some other remains noted on the way to Dō-gumbadhān the briefest notes will suffice. On a rocky hillock about 5 furlongs to the north-west are found some small structures built with large stones and little mortar. One of these can be recognized as a mosque by its plastered prayer niche. A smaller rocky ridge about 900 yards farther west is crowned with decayed ruins of a fort, measuring about 35 yards square and showing traces of having been provided with small corner bastions.

From the village of Dō-gumbadhān we proceeded on December 12th to visit the ruins of Shaikh Khwāja reported high up in a valley to the north-east. After a ride of about 4 miles, and before reaching the mouth of the valley, we passed numerous indications of extensive former cultivation on the alluvial ground now almost entirely a scrub-covered waste. A trying ascent, mainly in a boulder-filled torrent bed, brought us at an elevation of more than 4000 feet to where the head of the valley opens out with terraces bearing remains of abandoned dwellings and old fields. A well-carved tombstone with a date which may be read either as A.H. 860 or 960 (A.D. 1456 or 1553) served to indicate the 15th-16th century as the approximate period when this attractive high ground nestling under mountain walls rising up to 8000 feet was occupied. In the glen known as Namo there were to be seen, besides a perennial spring and a small orchard of fig trees, two fairly well-built residences which may have served as summer quarters

for local chiefs of Dō-gumbadhān. The decoration of the interior walls with plastered niches surmounted by pointed arches and of the low flat vaulting was suggestive of the Safawī period. After a fatiguing descent we were shown at the mouth of the Khundo-bunār gorge ruins of two large residences built in the same style. No water can now be found near them nor on the numerous terraces laid out for orchards or fields which we passed lower down for some 3 miles on the way back to Dō-gumbadhān. Two *qanāts* noticed on the way have carried no water within living memory.

On the morning of December 13th, after visiting the ruined caravanserai to the south-west of the village, which now serves as a gendarmerie post, and the warm springs close by, we started for Lishtar. Before taking to the caravan road, which a succession of ruined cisterns marks as old, I examined the abandoned site of Bangā nestling in a nook of low hills about 3 miles to the north-west. Its remains comprise a number of large houses with barrel-vaulted rooms showing structural features pointing to the Safawī period. Abandoned cultivation marked by terraced fields on the hillsides is accounted for by an ample spring rising in a small gully farther south.

The caravan road which was joined shortly led across a wide plateau of gypsum formation to the small valley of Chahā. Here a ruined caravanserai with remains of decayed dwellings was to be seen above a spring, and the ruin of a small fort on a hillock close by, all apparently dating from late Muhammadan times. Beyond this the road passed into an area of deeply eroded gypsum hillocks furrowed by several brackish streamlets and known

collectively as Pūchak. We emerged from this much-broken ground close to where the stream of Shams-ul-'Arab debouches from the hills of Kōh-i-surkh. Near this point a couple of much-decayed caravanserais attest the line of the old trade route. Here we entered the open grass-covered plain of the Lishtar valley which affords ample grazing for semi-nomadic Arabs. Cultivated ground was not met until, after a total march of some 23 miles, we reached the small Arab village of Lishtar at nightfall.

A spring close by accounts for this manifestly recent settlement. But on resuming our march next morning we passed half a mile farther on the ruin of a domed structure, perhaps a Muhammadan tomb, with high pointed arches and squinches, which looked old. About 3 miles farther there was reached the ridge of Band-i-Lishtar which, at an elevation of about 1700 feet, forms the watershed towards the Rūd-i-Khairābād, a considerable river descending from the north-east. A wide view opened towards the picturesque hills from which the river debouches and also towards the steep serrated range overlooking the wide Behbehān plain.

A descent of less than 5 miles on a steep road broken by small ravines brought us down to Khairābād village on the left bank of the river, where we camped. Time was left for examining the remains of two ruined old bridges of which I had received a report. These do not appear to have ever been recorded by former European travellers, probably owing to their being situated close on 4 miles above the point where the present road crosses the river, and because the old high road once leading to them has been abandoned ever since they got broken centuries ago.

After leaving Khairābād village, a collection of mat-

roofed mud hovels, we took to the high ground on the river's left bank overlooking the wide flood-bed and the patches of irrigated ground along it. Near the tomb of a reputed Imām-zādeh potsherds of medieval appearance mark a once occupied site, known as Ḥājī ʿAlī, and some large mill-stones lying on the ground are locally believed to have served for pressing oil. A rough path crossing small sandstone ridges and eroded ravines brought us to where the river, winding between steep-faced sandstone terraces, flows in a deep-cut bed contracting at one point to about 60 yards.

Of the lower bridge first reached there survives only one arch adjoining the edge of the rocky terrace on the left bank (Fig. 20). It is built with cemented rubble, and by its semicircular arch can be safely recognized as belonging to a bridge of Sasanian times. Its span is $22\frac{1}{2}$ feet, its height from the present ground-level to the top of the arch 13 feet, and that of the masonry above this 9 feet. The width of the roadway carried by the arch is 14 feet, and that of the pier, on which the arch rests, about 25 feet at its broken end. The upper flank of the pier, as far as it remains, is faced with carefully fitted slabs of sandstone, and on the lower flank there can be traced what looks like the remnant of a buttress. The rest of this lower and earlier bridge has been completely carried away by the river, no trace being seen of piers or arches on the right bank. Judging from the great width here of the river-bed and the gentle rise of the roadway above the surviving arch, it may be assumed that the river itself was not spanned here by a single arch, but by two arches, the intermediate pier having been completely carried away.

The belief that this ruined bridge was of Sasanian

origin is confirmed by the massive pavilion-like structure standing about 100 yards from the surviving arch on the left bank (Fig. 21). The hall inside measures 20 feet 6 inches square, the span of the four vaults enclosing it is 16 feet 6 inches, and the piers on which these and the dome carried by them rest are roughly 8 feet 6 inches square on the ground. Broken as these piers are, the arches still retain their noble semicircular shape. Of the dome which sprang from a circular drum above squinches at a height of more than 27 feet, only a height of about 6 feet remains on the northern side. Traces of clerestory openings can be seen. On the inside of the piers pieces of very hard white plaster still cling in places to the solid masonry, which throughout consists of cemented rubble. Even in its ruined state the structure standing alone with its fine proportions presents an impressive appearance. Its purpose can scarcely have been anything else but to serve as a *takht* or royal pavilion from which to watch the river passage. How often may it have seen the armed bands of mailed horsemen, retainers of the great feudatories from Fārs, the Sasanian dynasty's home-land, pass here on their way to Mesopotamia to fight the King of Kings' battles against Rome, the hereditary foe?

Far more imposing are the remains of the upper, and undoubtedly later, bridge (Fig. 19). They comprise two arches with their piers on the left bank and four arches with piers on the right bank. There, too, still rises in massive strength the high buttressed pier on which rested the great central arch once spanning the river. This here flows in a deep rock-lined channel about 60 yards wide. This great arch has completely fallen, and no remains



19. RUINED BRIDGE OF KHAIRĀBĀD, SEEN FROM LEFT BANK



20. PIER AND ARCH OF SASANIAN BRIDGE, KHAIRĀBĀD
Remains of later bridge on right bank seen in distance



21. CHAHĀR-TĀQ RUIN AT KHAIRĀBĀD BRIDGE

of it are visible in the bed. All the surviving arches are pointed and these as well as the type of masonry indicate construction in Muhammadan times. The rough cemented stonework inside is faced throughout with dressed slabs of no great size in regular courses. The sandstone of the cliffs on either bank furnished material for this facing ready to hand.

The piers and arches present a picture of combined constructive elegance and strength, and display in various details considerable engineering skill. Thus a vaulted passage running at right angles to the direction of the bridge through each of the piers and provided with arched openings on either side of the latter was, perhaps, meant to lighten the stress exercised by the weight of masonry needed to carry the roadway at the desired height. In the pier nearest to the central arch on the left bank this vaulted passage is accessible by a flight of steps from below, and the same appears to be the case at the piers of the right bank. In the very massive semicircular buttress of the great pier above the right bank there is seen a second opening below the one which serves the passage higher up. To give some indication of the dimensions of separate parts of the bridge it may be mentioned that the arch on the left bank nearest to the fallen central arch has a span of 12 feet, a width of 28 feet, a height of 14 feet from the present ground-level and carries above its top masonry to a height of 13 feet. Beneath the arch the inner faces of the piers have two niches 3 feet deep and 4 feet wide. The roadway above the piers and arches on the left bank has a total width of 25 feet, including parapets 2 feet 6 inches thick and 2 feet high.

Owing to the depth of the river no crossing was practicable near the ruined bridge, and the approach of nightfall would not allow time for seeking a ford elsewhere; so I was unable to examine closely the remains on the right bank, or what looked like the ruins of a caravanserai above them. But what we had seen of the size and solidity of the later bridge gave a sufficient impression of the amount of labour its construction must have involved, and also of the extent and importance of the traffic it must have carried in early Muhammadan times. I have not been able to find any reference to this bridge in the Arab geographical records made accessible in Professor Schwarz's *Iran im Mittelalter*, nor could I learn of any local tradition regarding it. But comparing its structural features with those subsequently observed at certain ruined bridges in Lūristān, one at least of which is exactly dated by an inscription of A.D. 1001,[3] I should think it difficult to ascribe it to a period later than that of the Abbasids, or the 11th-12th century of our era. The direct road leading from the ruined bridge to Lishtar is still known to the people of the Buyair Aḥmad tribe now settled at the village of Qadrābād, higher up on the river, but it has certainly been abandoned for centuries.

There was no information obtainable about a large canal, undoubtedly old, which can be traced for a considerable distance below the bridges, and which in one place is carried by a tunnel through the cliffs above the river-bed on its left side. It had obviously served to irrigate the high-lying ground near the previously noted medieval site of Ḥājī ʿAlī. Evidence of much more ancient occupation

[3] See below, pp. 271 sq.

was noted about half a mile below the Sasanian bridge. There at the foot of a small mound occupied on the top by a fortified house, which the father of the present tribal headman of Qadrābād had built, fragments of painted chalcolithic pottery were picked up.

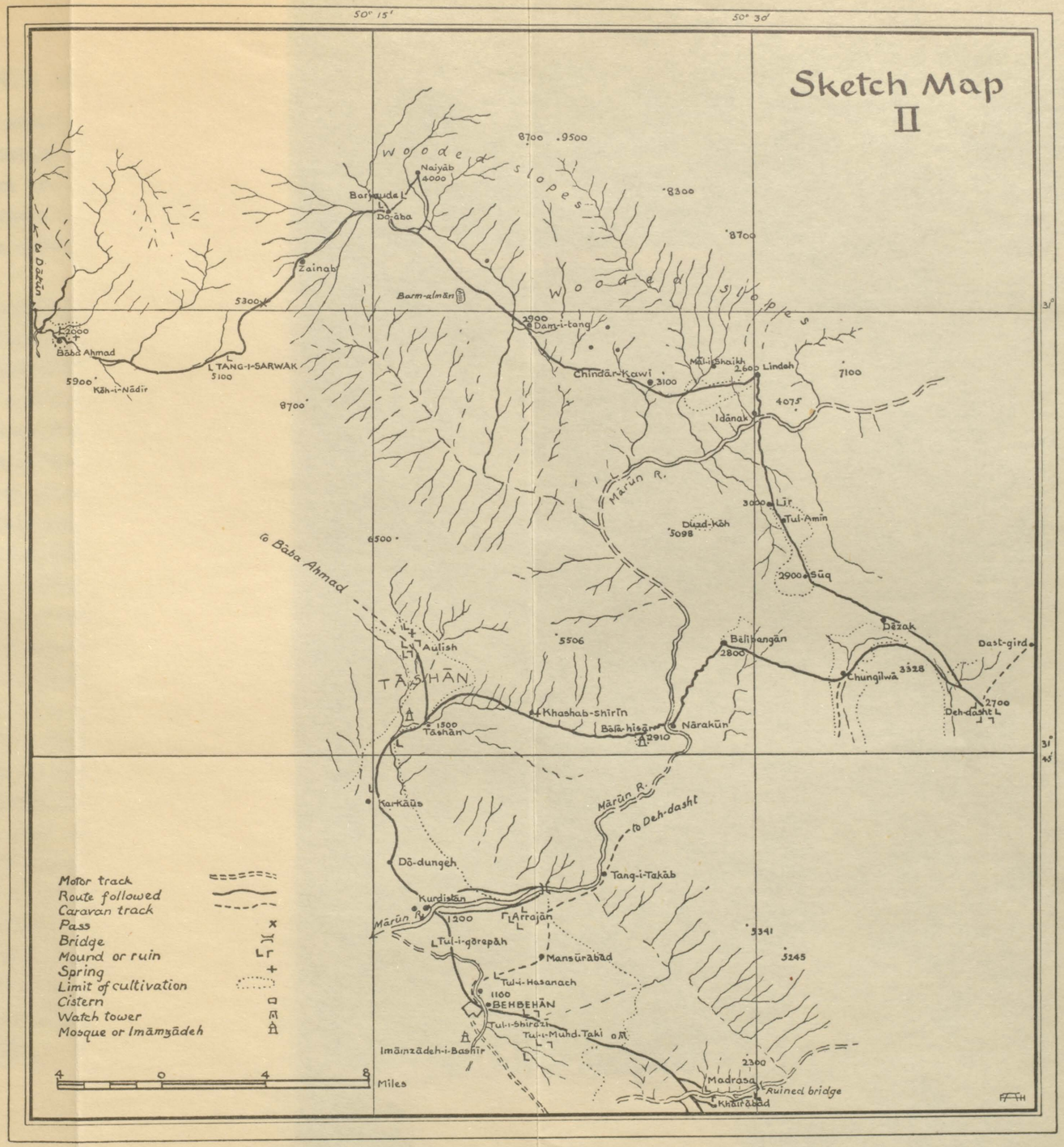
After our start next morning for Behbehān I was able to pay a visit to a later structure of some interest situated on the right bank near Khairābād, and rightly known as a 'Madrasa' or theological college. It was reached after fording the river about a mile above the village where it is divided into two branches, both flowing with a strong current. It proved a quadrangular structure, built with hard burnt bricks, 8 inches square and 2 inches thick, and still sufficiently well preserved to house a number of Kohgalu tribal families here forcibly settled. The plan and architectural features distinctly recalled to me Madrasas of the Timurid period (14th-15th century A.D.), such as I had seen at Khargird on my journey through Khorāsān in 1915. This, however, is a structure on a more modest scale, comprising twenty-eight students' cells arranged in a single storey around a square court, besides three high vaulted halls and a decorated gateway. Perhaps the conjecture may be justifiable that when this pious foundation was made the old high-road still passed over the great ruined bridge higher up and was much frequented by traffic.

Section ii—BEHBEHĀN AND THE ARRAJĀN BRIDGE

A short march of some 11 miles brought us on December 15th to the town of Behbehān (see Sketch Map II). The wide plain of fertile alluvial soil, but scantily populated at

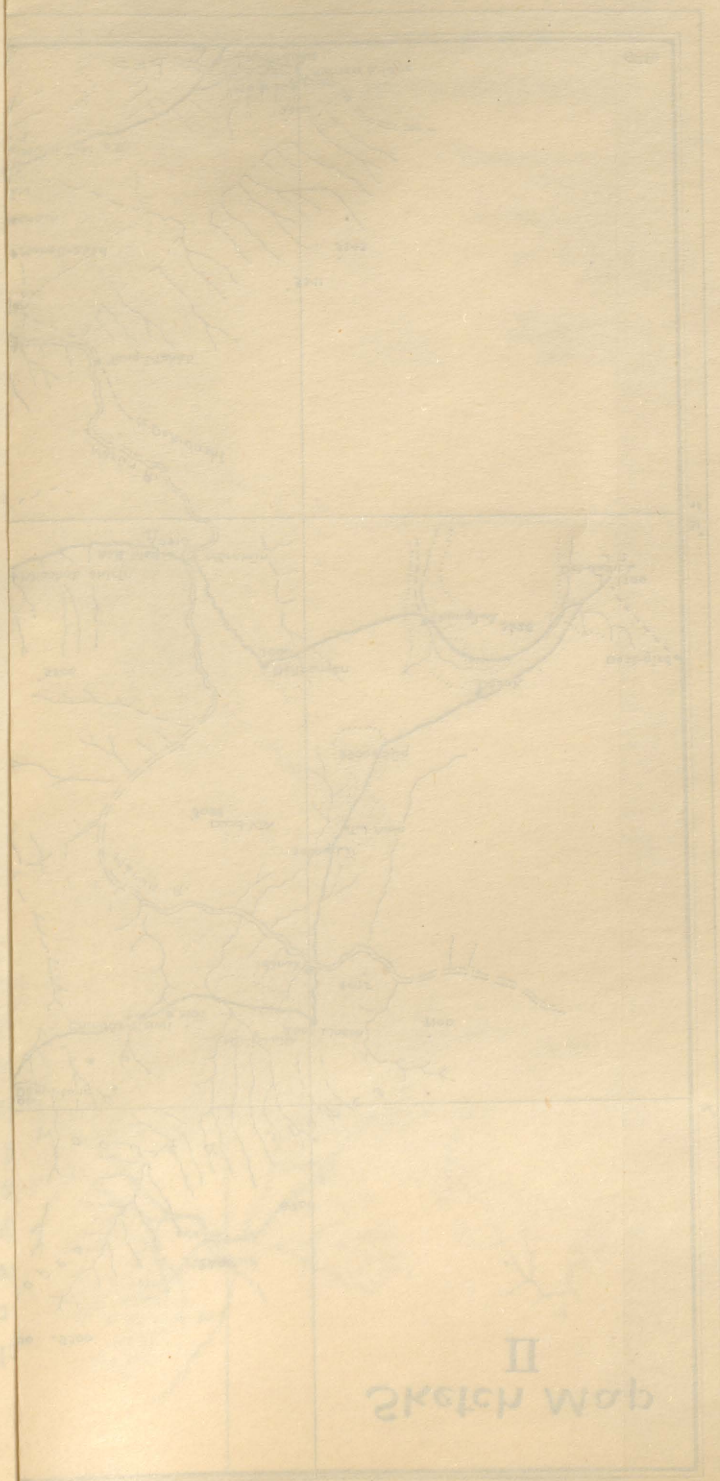
present, became visible from the ridge which, descending from a precipitous range to the east, forms the watershed between the Khairābād and Kurdistān rivers. Before reaching the top of the ridge, where decayed dwellings and graves mark a halting-place known as Pīr Mullah, there could be sighted stretches of the old road which, coming from the direction of the ruined bridges, skirts the foot of the range. It is probable that it originally continued to the north-west towards the old site of Arrajān town, which preceded Behbehān as a local centre and emporium of trade down to medieval times. A ruined tower, perhaps of early date, together with two old cisterns, were passed at the eastern edge of the cultivated plain. A conspicuous tower sighted some miles off to the north marked the place known as *Tang-i-āb*, whence Behbehān derives its scanty supply of running water through a *qanāt*. Other canals underground taking off at the mouth of the same gorge were said to have fallen into decay in the past. If restored, they might, as in earlier historical times, assure abundant resources to the Behbehān tract and its rather poor town.

My stay at Behbehān, a far from attractive place, was prolonged beyond expectation by a succession of rainy days such as the oldest inhabitants were said to declare unprecedented. With short interruptions downpours continued over four days, until the rich soil of the wide valley plain turned into an expanse of tenacious mud, set off by glistening sheets of water. Our camp had been pitched well away from the town on a bare patch of clay beyond the small garden where the military governor had his modest office and quarters and where the only tolerably safe



II. SKETCH MAP OF PORTIONS OF BEHBEHĀN AND KOHGALU TRACTS FROM PLANE-TABLE SURVEY (FIELD RECORD, SUBJECT TO ADJUSTMENT)

[To face page 76



II

Sketch Map

water supply from the above-mentioned canal was accessible. Though our tents narrowly escaped being swamped, and communication with the places whence supplies were to be obtained presented difficulties, there was reason to feel grateful for being at some distance from the town, which is notorious for its insects, local diseases, etc.

For the delay incurred there were some compensating advantages. While all this 'water of mercy', to use the emphatic Persian phrase, was descending upon Behbehān there was a chance of disposing of a great deal of writing work arising from the receipt of the heavy mails of a month which had greeted me on arrival. More important it was that our prolonged stay at Behbehān enabled me to gain closer contact than might have been possible otherwise with Colonel Zindeh-dil Khān, the very able and energetic local administrator. It was largely due to the friendly interest taken by this far-travelled and well-instructed officer in the scientific objects of my journey that through his effective help it became possible to have all needful arrangements made about escort and guidance in the Kohgalu hills to the north. Most of the ground there still remained practically unmapped, and the fact of the settlement of the local tribes having been achieved only recently might well have given rise to objections. When a visit to the town allowed me to return the calls of the half-dozen minor local officials received immediately after my arrival, it was pleasant to note that a variety of useful improvements in the town, effected during the year since the Colonel's assumption of office, justified the praise they had given him for the achievements by which life had been lightened in this otherwise trying place of quasi-exile.

What impressed me even more during the several visits we exchanged was Colonel Zindeh-dil Khān's keen grasp of the country's real needs. His was not that spirit of easy contentment which makes so many an educated Persian with lively imagination take proud aims and fond hopes for achievements. What seemed to claim his chief efforts was the steady suppression of banditry, hard to cope with after long periods of tribal disorder and consequent insecurity, and the revival of trade along the old road towards Fārs. If this road could be made practicable throughout for motor traffic by the construction of bridges where the rivers of Khairābād, Deh-i-nau and Fahliūn now present impassable obstacles, Behbehān with its abundance of fertile land and potential surplus of produce would resume once more the important role its predecessor, Arrajān, the ruined town about 6 miles to the north, had played during early Muhammadan days and probably in even earlier times.

So my observations on the numerous indications of ancient traffic along the route I had followed provided a congenial subject of talk. But of my travels in distant Central-Asian parts, too, Colonel Zindeh-dil Khān was eager to hear more than the Persian abstract translation prepared years ago of one of my lectures could tell him. For as a native of Tabrīz he has Turk blood in his veins and thus has his share, too, of the migratory spirit which has always carried the thoughts of his race far beyond the limits of the land it holds for the time being.

Intervals between those days of rain had been used by Surveyor Muḥammad Ayūb Khān and myself for the rapid inspection of several mounds visible from Behbehān

which rise above the plain of the valley, and so were obviously of artificial origin. At the mounds of Tal-i-Manjanik and Tal-i-Shīrāzī, both to the east of the town, the surface finds of broken pottery either pointed to occupation down to medieval times or, where comprising also some fragments of painted ware of earlier type, were too scanty to encourage trial excavation. But at the small mound of Tal-i-Hasanach, situated about $1\frac{1}{2}$ miles to the north of the town and about 13 feet high (see Plan 2), trenches cut down from its centre yielded a considerable quantity of monochrome painted fragments of pottery closely resembling in type the ware characteristic of chalcolithic sites in Fārs.

The painted patterns comprise a great variety of geometrical designs, as shown by the specimens reproduced in 11, 12, 13, 16, 18, 24, Pl. I; but animal figures and rows of stylized birds also occur (see 15, 21, 22, 25, Pl. I). The shape of the bowl, the inside of which is shown in 13, is reconstructed in 2, Pl. XXVII. The fabric is mainly of buff colour, and the vessels have ring bases. Among associated implements were flint 'blades' and two flakes of obsidian. The result of this short excavation, which available labour permitted to be carried down to half the height of the mound, sufficed to prove that the chalcolithic civilization previously traced over a great portion of southern Īrān had its extension also into parts near the head of the Gulf. A subsequent trial excavation at the low but much larger mound of Tal-i-Muḥammad Takī to the south-east yielded only fragments of unpainted coarse ware, besides flint chips and small pieces of alabaster cups.

On Christmas Day we were at last able to leave

Behbehān and to start with a fresh escort of a dozen mounted gendarmes for the mountains in the north. The sky looked still heavy with clouds, and this made it important that the considerable river of Mārūn which bounds the plain of Behbehān on the west should be crossed before fresh rain might make it unfordable with baggage for several days if not longer. This consideration, as well as the difficulty of having to procure labour from distant Behbehān town, would, to my regret, not allow of trial excavation at the conspicuous mound of Tal-i-gōrepāh sighted to the north-west about a mile from the track to the ford.

It measures about 120 yards in diameter at its foot, rising steeply to 23 feet in height. Plain as well as painted potsherds were to be picked up in plenty on its slopes, the latter by their type proving chalcolithic occupation of the site. The designs of the painted patterns on the pieces collected are mainly geometrical (23, 26, Pl. I) and show distinct resemblance to those of Tal-i-Hasanach. Rows of small dots form a frequent motif (19, 20, 27, Pl. I). A zone of standing birds (14), the forelegs of an animal (27), and portions of ibex horns (19), also occur. Worked flints were found in numbers; also some decorated pottery whorls (20) and a crescent-shaped object of uncertain use (17). A few glazed pottery fragments found on the top of the mound marked occupation down to historical times.

Leaving our camp at the palm grove and solitary hut of Khāristān near the ford, I proceeded the same day 3 miles up the left bank of the Kurdistān or Mārūn river for a visit to the site of Arrajān. As already described by Professor Herzfeld,[1] the site of the town, famous in early

[1] See *Petermann's Mittheilungen*, 1907, p. 81.

Islamic times, and probably also before as a great trade centre at the junction of important routes, is now recognizable only by an area of shapeless low mounds. Cultivation made possible by a canal from the river higher up seems to have effaced all structural remains on the surface, and owing perhaps to its increase the lines of the decayed town walls noted by Professor Herzfeld have become difficult to trace. For the many notices of the town of Arrajān by early Arab geographers, and for the great routes mentioned by them as meeting there, reference to Professor Schwarz's work must suffice here.[2] The importance of the town is also attested by the fact of its name having been given to a whole province between Khūzistān and Fārs; while in Muqaddasī's detailed description the capital is spoken of as "the storehouse for Persia and Mesopotamia" and as "the emporium for Khūzistān and Isfahān".[3]

On December 26th, while our baggage was being taken, not without serious risk, across the swollen river to the village of Kurdistān, I proceeded up the left bank for some 5 miles to the ruined bridge which remains as the only monument of Arrajān's past greatness. About a mile before reaching it there were to be seen exposed on one side of a deep ravine, cutting through the high conglomerate of the river-bank, the plastered openings of two old *qanāts*. A little above them a small aqueduct, 2 feet wide on the top, crosses the ravine by a semicircular arch. It must have served to carry water from a third *qanāt* across the ravine. Some 20 yards lower down there is seen on either bank a cemented circular shaft

[2] See *Iran im Mittelalter*, pp. 112 sqq., 429 sqq. and *passim*.
[3] *Ibid.* p. 114.

marking where a syphon must have served to carry the water of another *qanāt*. Both aqueduct and syphon are likely to have been constructed at a time when deeper erosion of the ravine had rendered the two channels lower down useless.

Following a line of shafts belonging to old *qanāts* there was reached the shrine of Imām-zāda Rizā built on the high conglomerate terrace close above the head of the bridge. A block of concrete masonry embedded in the enclosing wall of this recent-looking shrine may have had some relation with the ruined bridge below. The remains of this bridge, even in their state of far advanced ruin, are very imposing (Fig. 22), but differ in some respects from those of the old bridges at the Tang-i-Brīn and Khairābād.

On the left bank four much decayed piers stretch from the very steep cliff, 60-70 feet high, overlooking the river to the bed which it fills in the winter. During the floods of the spring and summer the river inundates much of the ground between these piers. The distances between the extant piers vary greatly, from 24 to 110 feet, just as do the dimensions of the masses of broken concrete masonry which survive. The facing stones of the piers, except the huge rough blocks used in the bases, have almost throughout disappeared. The arches once spanning the spaces between the piers have completely fallen. Whether the distance of 110 feet between the third pier from the cliff and the pier on the very edge of the water was spanned by a single arch, or whether there was an intermediate pier, could not be definitely determined, so great has been the destructive force of the floods which must at times have assailed this mighty bridge.



22. RUINED BRIDGE OF ARRAJĀN, SEEN FROM LEFT BANK OF MĀRŪN RIVER



23. REMAINS OF BARRAGE BELOW PIERS OF ARRAJĀN BRIDGE, ON RIGHT BANK



24. VIEW TOWARDS LINDEH AND KŌH-I-NĪR, KOHGALU

The pier standing next to the water's edge rises to a height of some 15 feet above the top of an embankment about 23 feet wide and 88 feet long built of massive blocks of stone embedded in concrete. At the upstream end of this pier huge boulders form a kind of breakwater, and this on a lower level curves round towards the next pier, 110 feet away, as already stated. Great as the strength of the pier nearest the water and of the embankment bearing it must have been, yet it seems hard to realize in its present state of ruin how this pier could have borne the thrust of a single arch spanning the whole width of the river channel between it and the pier on the right bank. This was estimated by the Surveyor and myself at not less than 150 yards. I am thus led to conjecture that there once existed an intermediate pier, the remains of which may have been completely carried away by the river in flood or may lie hidden below the surface.

The position chosen for the bridge had evidently been determined by regard for a ridge of conglomerate rock which, as seen in Fig. 22, projects sharply from the cliff-bound right bank. This projection reduces the width of the flood-bed, but at the same time it causes the river to make a very sharp bend, and the force of the current increased thereby is bound to threaten the upstream foot of the ridge with progressive erosion. This explains the special care which had been taken to strengthen the foundations of the piers on the right bank by placing them on successive massive embankments. In order to examine these remains we had to cross the river about a quarter of a mile below the bridge. There the width of the channel was fully 300 yards, with an average depth of 3 feet of

water, the strong current making the fording distinctly troublesome even on horseback. In the spring or summer it would probably be impracticable to cross at this point.

A rapid examination of the remains on the right bank showed four parallel embankments massively built with rough stones set in very hard cement, and divided from each other by narrow channels (Fig. 23). These embankments rested on conglomerate rock and bore piers at their upper ends. But of these piers nowhere more than 4 or 5 feet in height of masonry remained, and of the arches they had carried, nothing. The second embankment from the water's edge measured 42 feet in length, and the pier at its upper end 28 feet with an approximate thickness of 12 feet. The lower ends of the embankments retained a regular revetment with small roughly cut slabs, not unlike those seen in the facing of the later bridge piers of Tang-i-Brīn and Khairābād. The bottom of the channels at the upper ends lay about 4-5 feet above the surface of the river water at the time. No debris of the fallen arches was found in the channels; this had evidently been carried away by the flood current.

That these embankments on the right bank had been intended also to serve as a kind of barrage to raise the level of the water when the river was low, was made very probable by what I observed in the narrow channel separating the fourth embankment from the almost vertical cliff of conglomerate behind it. This cliff rose to a height of about 100 feet above the water level at the time, its top abutting on a terrace above. Within the channel could be seen remains of walls which seem to have served for sluice-gates regulating the flow of water into a rock-cut tunnel

a little farther down. The tunnel, 8 feet wide and fully 10-12 feet high, with stuccoed walls, formed the head of a *qanāt* meant to irrigate land in the riverine belt lower down in the valley. Owing to the fall of the cliffs the continuation of this *qanāt* could not be followed further. On a somewhat lower level a smaller *qanāt* tunnel was to be seen, with a clearly recognizable sluice gate where it passed over-ground about 20 yards from the lower end of the adjacent embankment or *band*. It deserves to be mentioned that, when subsequently making our way down the right bank of the river-bed towards Kurdistān, lines of shafts connected with old abandoned *qanāts* were seen running on for fully a mile along the edge of the high ground.

It is clear that the position chosen for the bridge on the right bank was just the one best suited also for a canal head, or *su-bāshi* ('head of the water') to use the pregnant Turkī term, to provide irrigation for the belt of fertile ground on that side of the river. On gaining the top of the terrace above the bridge on the right bank I noticed a small barrel-vaulted hall amidst the debris of completely decayed habitations. The pointed arches of the hall definitely showed it to date from Islamic times.

The remains of the ruined bridge just described gain some special antiquarian interest from the notices to be found of it in accounts of early Arab geographers.[4] Ibn Khordādhbih must refer to it where he writes of a 'Khusrau bridge', stone-built and more than 300 cubits long, leading across the river of Arrajān. Iṣṭakhrī mentions the bridge when dealing with the Ṭāb river (*i.e.* the Mārūn or

[4] For translations of these notices see Schwarz, *Iran im Mittelalter*, p. 117 sq.

Kurdistān river) dividing Khūzistān from Arrajān, and describes it as follows :

" At the gate of the Arrajān towards Khūzistān there is a bridge across the Ṭāb called after the Dailamite, the physician of Ḥajjāj. It runs with a single arch which measures approximately eighty steps between the piers. The height of the arch would allow a camel-rider carrying the longest standard to pass."

Ibn Ḥauqal writes of the bridge as having few to equal it and being more imposing than the bridge of Cordova. He ascribes it to a landed proprietor in Persia, while Dimishqī records a tradition naming the Sasanian king Qubādh as its builder. I am unable to determine how the length of 300 cubits given for the bridge by Ibn Ḥauqal is to be reconciled with the approximate measurement of 300 yards arrived at by our rapid survey ; nor what the correct equivalent for the eighty steps named by Iṣṭakhrī for the great arch would be. But the latter's mention of the name given to the bridge clearly shows that its construction, as it existed in his time, was ascribed to early Muhammadan times. The tradition which assumed a Sasanian origin for the bridge may either be explained by an earlier structure having been replaced by the one of which the remains are still extant, or else it may be accounted for by a recollection of the historical fact that the town of Arrajān was founded by King Qubādh, father of Khusrau Anushīrwān.[5]

[5] See for Ṭabarī's notice, Nöldeke, *Geschichte der Perser und Araber zur Zeit der Sasaniden*, p. 146. It may here conveniently be noted that in spite of enquiries I was unable to receive on the spot any confirmation of De Bode's statement in his very brief account of Arrajān (*Travels in Luristan and Arabistan*, i. pp. 296 sqq.) that there were *two* ruined bridges near the ruined town, " a short distance one from the other ". The sketch forming the frontispiece

SECTION III—TĀSHĀN AND THE DEAD TOWN OF DEH-DASHT

The journey from Behbehān into the hills northward was meant to acquaint me with ancient remains about which I had learned partly from De Bode's account of his travel in those hills in 1841 and partly from local information. But apart from reports of 'ancient towns' I was drawn there also by the chance of gaining some acquaintance with the hills of the Kohgalu tribes which the maps showed as unsurveyed. After starting on December 27th from Kurdistān, a fairly large village, we crossed a well-cultivated area irrigated from the stream of the Tāshān valley for some 7 miles before reaching the ruin known as the Chahār-tāq of Kai Kāūs. The name of that Kayanian king of the epic legend is borne also by a village about a mile to the south of the site marked by low mounds covered with stone debris and mortar. The only structure still standing is a ruined hall, measuring about 40 feet inside and approximately orientated. The surviving walls on the north and east have an open arch in the centre, 8 feet wide and nearly semicircular, and rise to an approximate height of 35 feet. Pointed squinches in the corners, formed with narrow slabs set on edge, once carried a dome now completely fallen. The walls, 8 feet thick, are built with rough stones set in hard mortar.

The structural features agree so closely with those of the open pavilion or *takht* at the Sasanian bridge of Khairābād that an approximately corresponding date may safely be assumed for the ruin. Close to the west of it two small

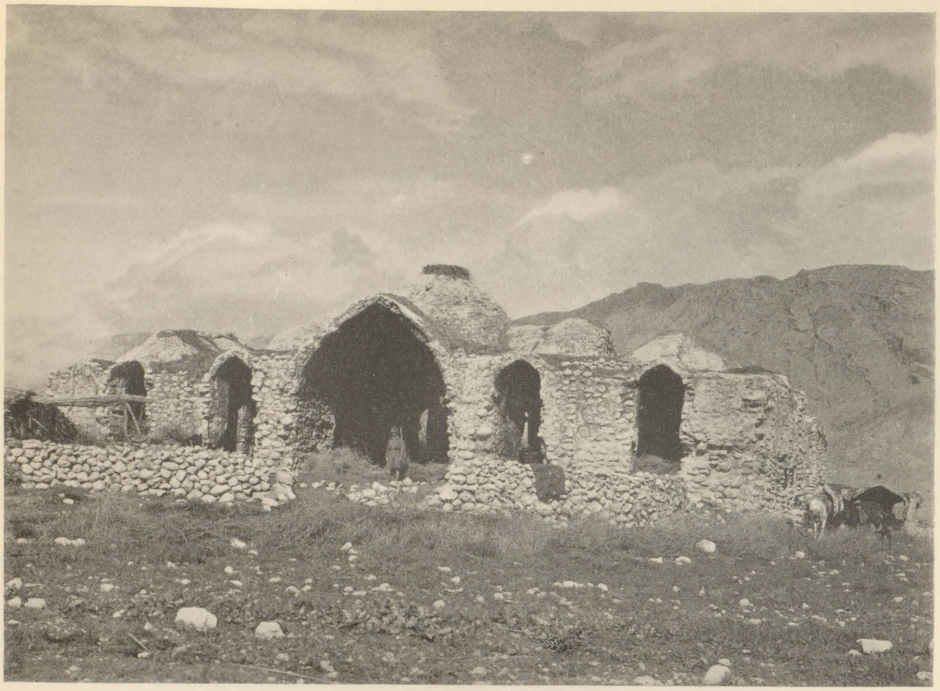
of his volume which is declared (p. 298) to give an idea of the Pul-i-Bēgūm, one of the two bridges, curiously suggests a combination of features taken from the Arrajān bridge and the Khairābād bridge.

mounds suggest completely collapsed structures of the same type. In the debris area extending for about a quarter of a mile farther to the north four more low mounds of this kind were recognizable, besides short stretches of paved paths and of raised conduits, 2 feet wide, built with cemented masonry and meant for the distribution of water.

Before reaching camp at Qal'a-i-Tāshān, the fortified village bearing the name applied to the whole well-cultivated small valley, we passed at the mouth of the valley the conspicuous ruin of a Muhammadan tomb of some age, surrounded by old graves. Heavy rain descended during the night, and this, together with a violent rain-storm experienced next day, made me still more grateful for having crossed the Mārūn river in good time with our baggage in safety. December 28th was used for a visit to the reported ' old town ' of Tāshān some $3\frac{1}{2}$ miles off.

It is situated at the head of the valley below a number of large springs which issue in a lakelet and are known by the name of *Aulish*. The ruins comprise some three-score of distinct dwellings, differing in size but all built on similar lines with rough stones set in mortar. All of them show roofs with barrel-vaulted sections resting on rib-like arches which spring from projecting pilasters (see Fig. 26). Between these the side walls are divided by deeply recessed blind arcading. At each corner a pointed squinch rests on the contiguous arches of side and end walls. At the narrow sides of the rooms rib-like semi-arches placed at right angles carry the barrel-vaulting.

The identity of all architectural features proves approximately contemporary erection, and this, considering the state of the ruins and the known political conditions govern-



25. RUINED MANSION, QAL'A-I-AULISH, TĀSHĀN



26. INTERIOR OF RUINED HOUSE AT AULISH, TĀSHĀN



27. RUINS OF DEH-DASHT TOWN, LOOKING TO SOUTH-WEST



28. RUINS OF DWELLINGS, DEH-DASHT

ing quasi-urban settlements in this region, can scarcely date back earlier than Safawī times, say the 17th century A.D. The total area covered by these ruins extends for some 1200 yards northwards and about 500 yards across. The larger houses appear to have had adjoining gardens or palm groves. According to the family tradition of the headman of Qal'a-i-Tāshān the ruins of the town were in much the same condition when his family came to Tāshān several generations ago, but there were palm trees still alive then. On higher ground to the north, and not far from the spring basin, stands the principal ruin, a residence of imposing dimensions (Fig. 25). It measures 87 feet by 75 feet outside and shows structural features corresponding closely to those in the houses of the 'town'. All apartments carry domed roofs. Behind this 'Qal'a' are found the remains of a large enclosure with serai-like cells, and to the left in front, the ruin of a square caravanserai. Though the remains still standing are of a recent period, the occupation of Tāshān goes back to early times; for Tāshān is mentioned by Ṭabarī in connexion with an expedition of Ardashīr I, the founder of the Sasanian dynasty, against Khūzistān.[1]

While engaged in making a plan of the principal ruin a heavy rainstorm came on and I felt glad enough for the shelter offered by its vaulted halls now used as cowsheds by poor cultivators. On returning to camp from the site and approaching a drainage bed, quite dry in the morning, a mighty roar was heard. It was the rush of a violent torrent carrying down all of a sudden the flood gathering in the mountains. Some of the mounted men with us managed

[1] See Nöldeke, *Geschichte der Perser und Araber*, p. 13.

by galloping ahead to get across in time by the track leading straight to camp, but when the rest of us arrived at the bank the depth of the water and the rapidity of the current were far too great to permit an attempt at fording. We had to ride a couple of miles farther down before a widening of the torrent bed, here partly holding beds of reeds, allowed us to risk a crossing. Here too the water reached above the horses' girths and only the firm bottom prevented their being swept off their feet.

Next morning we turned off to the east in order to reach the ruined town of Deh-dasht of which a report had been received at Behbehān. Two days' travel was believed to suffice for reaching it, but no account had been taken of the difficulty which the maze of low gypsum hills to be passed on the way between two precipitous limestone ranges was bound to offer for our laden mules. For two trying marches the brave Shirāzī mules struggled on across a constant succession of deeply cut ravines and steep ridges between them. On the first march the ascent lay between a rugged range overlooking the Mārūn river below the Tang-i-Takāb gorge and a much higher one abutting on the river farther up. The recent rains had made the bare gypsum blocks exposed on the slopes even more slippery than they ordinarily are. After the first day's fatiguing experience of this ground an ascent of close on 1500 feet with many ups and downs brought us in the dark to the solitary hamlet of Bālā-ḥiṣār, where water could be found for a night's halt.

On the following morning an equal descent from this narrow gypsum plateau to the Mārūn river proved a very troublesome affair. Though the distance to be covered

was only about 3 miles it was not till long after mid-day that the crossing at the ford of Nārakūn, 1000 feet lower down, could be started with successive batches of animals. With the help of local guides this was safely accomplished, the river flowing with some 3 feet of water and a strong current in a bed some 150 yards wide.

Once across, the climb over steep gypsum slopes to the plateau opposite proved even more trying for our mules. Again and again footholds had to be hewn where the slippery surface of rocks would have otherwise defeated their steady feet. Dusk was setting in by the time the last batch of mules had been dragged up and the last portion of baggage man-handled. With the animals exhausted by this long climb progress was necessarily slow in the dark over the top of a gypsum plateau furrowed by ravines and holding many hollows of the regular ' Karst ' type. At last a gentle slope was gained leading down from this desolate ground to the tower and little hamlet of Bēlibangān. The inhabitants of its few huts depend for their water on rain-holes, which dry up or become too salt after the early spring, when the women have to toil up with skin bags filled far below at the river.

Fortunately the march to Deh-dasht on the last day of the year proved easy. It led eastwards over a gently sloping peneplain, where much of the underlying gypsum rock had been decomposed on the surface to reddish-brown soil capable of cultivation. But only patches of it are occupied by the very limited number of families which age-long tribal disorder has left behind for pursuits of settled life. Sad evidence of the conditions thus created was to be seen at the old village of Chungilwā where, by

the side of some ruins resembling those of Aulish, there stood two small forts destroyed during tribal fighting of recent years and a pomegranate plantation burnt down. When the foot of a rugged low sandstone ridge had been turned a wide-open valley lay before us, bounded in the north by the high range of the Kōh-i-siāh rising to over 10,000 feet and snow-capped at the time. Then, at the eastern end of the valley which sends its drainage to the Khairābād river, the ruined town of Deh-dasht came into view.

Quite imposing it looked from a distance, with its stone-built houses crowding closely on and around a rocky hill. But as we got nearer and had passed the ruins of what had evidently been small suburbs (Fig. 27), I could not indulge much longer in illusions as to the archaeological importance of the site. It was clear from the uniform architectural features of the closely packed houses with their barrel-vaulted rooms and halls, often still retaining much stucco on walls and ceilings, that the decayed buildings above ground could not date back further than two or three centuries at the utmost. Yet as we wound our way through the narrow deserted lanes, passing several minor mosques, hammāms, serais and houses where the fallen front walls exposed comfortably disposed quarters, I felt impressed by the interest of the spectacle presented and by the silence pervading it all.

A clear spot for pitching our tents was found just outside the southern face of the crumbling town walls, near the only well among the many traceable among the ruins that still retains water. Then passing with the Surveyor through the maze-like agglomeration of ruined houses,

many of them double-storied (Fig. 28), I noticed again and again how closely their general architectural features resembled those observed at Tāshān. Before reaching the principal mosque we passed a large building known as *Zōr-khāneh* with an extensive set of underground rooms, which evidently had served as cool retreats during the summer heat. The principal mosque, still an imposing building in spite of far-advanced decay, has three wide vaulted halls facing a quadrangular court lined on the other sides with small rooms for priests and religious students. The inscription above the stuccoed entrance to the court proved unfortunately too effaced to permit the date of construction to be read. A closer search for dated tombstones than time permitted us to make may yet yield some definite chronological data. After clambering up among and over decayed walls, all of rough stones set in mortar, often of inferior strength, to the highest point of the rocky hillock, a general view of the town was gained and its position fixed on the plane-table. Soon drizzling rain set in, but by making our way back to camp just outside the town it was possible to follow the line of walls and towers once defending it on the east and south. Much decayed as they are, it was here possible to trace successive additions and extensions.

It continued to rain all through the night of New Year's Eve and at intervals also during the following morning. The search made meanwhile by the men had shown that among all the hundreds of houses of Deh-dasht —their number might well be not far from a thousand— less than a dozen were tenanted by poor folk content to crouch among ruins. The avowed intention of govern-

ment to revive this once flourishing place by colonization appeared to have brought them from Behbehān to tumble-down structures claimed by them as their ancestors' homes. But no supplies whatever were obtainable.

Since the outlook for an early improvement of the weather was doubtful there was a risk of finding the Mārūn river, which had to be recrossed on our way to Lindeh, our next goal, rendered impassable if Deh-dasht detained us too long. So I let the baggage be packed up and started on the way westwards, much to the relief of the men who were eager to turn their back on the dead town with its eerie look and depressing silence. I myself and the Surveyor were kept behind for hours by the fascination of the place and the hope for a chance of more plane-table work. After a time the sky cleared and allowed me to take photographs of these desolate scenes of ruin. Thus Roman settlements in Britain may have looked a century or two after their abandonment to barbarians.

The puzzle presented by the deserted town was gradually solved by comparing what scanty local information could be gathered with the map and an itinerary preserved by an early Arab geographer. Rapid as my inspection of the ruined town had been, it had sufficed to prove conclusively that Deh-dasht could have derived its importance only from trade passing through it and not from local agricultural resources. This was clearly shown on the one hand by the number of large ruined serais to be seen both within the town and in suburbs outside it, and on the other hand by the total absence among the closely packed houses of the accommodation for cattle and other livestock such as could, for example, be observed at the ruined dwellings of

Tāshān. A look at the map confirmed the indication furnished by the statement of an intelligent Saiyid whose ancestral home had lain here, that Deh-dasht was situated on the most direct route connecting Behbehān and other once flourishing parts of Khūzistān with Isfahān, and that its quondam prosperity was due to the trade passing through it. Isfahān had been the great capital of Persia in the spacious times of the Safawī dynasty and an important emporium for ages before.

Deh-dasht, situated as it is near a wide and once cultivated valley just before the old trade route passes into a belt of high mountains, was eminently suited for a place where caravans could prepare for the long journey through mountainous country devoid of local resources, and in the reverse direction let their animals rest or arrange for a suitable change of transport, say from mules and donkeys to camels, and prepare for the distribution of their goods. The elevation of Deh-dasht, approximately 2700 feet above sea-level according to our barometric observations, with its cooler climate would favour such a halt here before the descent to the hot plains. The important part thus played by Deh-dasht in a not very distant past proved in fact to be still remembered by local tradition. It was also known that what had gradually extinguished trade by that route and brought about the abandonment of the town was the utter tribal anarchy which followed the downfall of the Safawī dynasty early in the 18th century and the constant depredations that closed the passage through the mountains.

The Buyair Aḥmads who hold most of that ground made themselves dreaded neighbours all round down to

quite recent times. The traders who caused Deh-dasht to prosper were bound to move elsewhere. In this connexion it was of interest to learn from our Inspector of Antiquities, M. Bahmān Karīmī, that the family designation of 'Deh-dashtī' is still widely represented among Persian commercial classes from Tehrān as far as Karachi. That the route from Arrajān via Deh-dasht to Isfahān was known and frequented already in early Islamic times is shown by an itinerary given by Muqaddasī; but detailed discussion of this cannot be made here.[2] Similarly a mere reference must suffice to the mention of Deh-dasht in J. S. Stocqueler's brief itinerary of his journey in 1831 from Behbehān to Qūmīsheh, the only published account of the route I have been able to trace.[3]

[2] See Schwarz, *Iran im Mittelalter*, p. 199, where the stages given are: Arrajān-Kanīsat al-majūs—to a village—Zīz—'Ainīya—to the river—Kharanda—Sumairem. Arrajān as the starting-point, and Sumairem, the present Semīrān on the route leading to the Shīrāz-Isfahān high-road, definitely fix this itinerary. The stages as known at present from Behbehān to Semīrān were named to me by our Saiyid guide of Deh-dasht: Tang-i-Takāb; Deh-dasht; Sarfar-i-āb; Sādat; Imām-zādeh Bīkhātūn (Bībi-Khātūn ?); Pātāwa with bridge over Khirsān river; Maimand; Chahār-rāh; Semīrān. A locality Zīzī, known between Sarfar-i-āb and Sādat, corresponds to Muqaddasī's Zīz. Hence his 'village' can safely be located at Deh-dasht.

Muqaddasī's *Kanīsat-al-majūs*, 'the shrine of the Magi', *i.e.* Zoroastrians, probably in the place called nowadays *Seh-gumbadhān*, the 'Three domes', and popularly believed to mark a habitation of 'Gabrs'. It was described as situated between Tang-i-Takāb (the gorge above Arrajān) and the village of Buwā, on the way to Deh-dasht. I regret that this information was received too late to permit me to turn back to what may be remains of interest.

[3] Stocqueler's itinerary, in his book *Fifteen Months' Pilgrimage through Untrodden Tracts of Khuzistan and Persia* (London, 1832), as accessible to me from the extract in de Bode's *Travels*, i. p. 325, after Booah (Buwā) mentions 'Deidass (Deh-dasht)' as the next stage with the note: "The ruins of an ancient and extensive walled town, situated in the heart of an extensive valley. Within a hundred yards of the entrance of the town is a ruined Karavanserai, and in its immediate neighbourhood flows a mountain river."

Section iv—Through Kohgalu Valleys

The sky fortunately cleared in the course of the two comparatively short and easy marches which carried us westwards again and across the Mārūn river. Snow had fallen heavily on the high ranges above us, and lay even on the top of the mountains past which we had made our way from Tāshān. Delightful colours were presented during these days by the rugged peaks, the valleys below clothed in fresh green and the crystal-clear river. The ruined hamlets of Dēzak, Sūq, Tul-Amīn, passed on our way over plateaus to the river had been recently reoccupied, and some of the cultivable ground brought again under tillage.

There was evidence also of an endeavour on the part of the administration to promote settlement on this ground by the planned construction of *qanāts*. Before descending to the river a fine view presented itself of the isolated massif of Duzd-kōh rising with its wooded top to some 5000 feet above a sharp bend of the Mārūn. The hamlet visible high up on its slope obviously occupies a very strong position, useful for those holding a 'robbers' mountain'. The crossing of the river where it forms an island below the village of Idānak was easier than at Nārakūn, and only 2 miles beyond we received a very hospitable welcome at Lindeh, the seat of Muḥammad Ḥasan Khān, the chief of the Taiyibī clan of the Kohgalu tribes. He had been wise enough to range himself in good time on the side of the new regime, and was thus allowed to retain his lands and some share of authority, while most of the other Kohgalu hill chiefs and rivals were either executed or removed to Tehrān. His fortified mansion with

other buildings capable of defence and accommodating relations presented quite an impressive picture.

My object was to make my way through an as yet unexplored hill tract to the pass of Tang-i-Sarwak where Baron de Bode in 1841 had paid a rapid visit to ancient rock sculptures with inscriptions, and thence to reach Dālūn in the Bakhtiārī country. The chief, an intelligent and capable man, under Colonel Zindeh-dil Khān's stringent instructions, insisted upon escorting us with a posse of armed retainers to the limits of his tribal area. It was a distinct undertaking for the very heavily built elderly chief, and I felt rather concerned for him when I found that the track to be followed, after passing for some 3 miles over a succession of cultivated terraces, involved a climb of about 800 feet up a steep rocky slope quite impracticable for riding. It was a relief to see our jovial fat host with the assistance of several of his men arrive safely at the top. That our mules, similarly helped on, managed this climb to the Gil-i-surkh pass (Fig. 24), and many another which had to be faced that day and the next, was a proof of their mettle. Once again we found ourselves among those terribly broken gypsum hills; and their constant succession of deeply cut ravines and narrow wooded ridges did not allow us to reach the small hamlet of Dam-i-tang until nightfall.

Our next march, on January 4th, though shorter, took us over ground quite as troublesome, with one pleasant interlude when in a field-fringed hollow we came upon the placid little lakelet of Barmalmān. Elsewhere the toil for the heavily laden mules was as great as before, with the result that in two days' strenuous marching we covered no more than 25 miles. There was no time to take exact

elevations at each climb; so it was hard to estimate accurately how many thousands of feet altogether our legs and those of our brave mules had ascended each of those days. Before reaching the small hamlet of Naiyāb, where aged Qubādh Khān, head of the small Yūsūfī section, lives, we had passed beyond the limits of Muḥammad Ḥasan Khān's tract. It was significant that though the Taiyibī chief was on friendly terms and related with Qubādh Khān he had never before gone as far as Naiyāb. Such limitation in the range of local travel was scarcely surprising in view of the many blood feuds kept up of old among Kohgalu tribal sections.

According to the programme settled at Behbehān we ought to have moved on from Naiyāb first to Mumbī, a considerable distance farther north in the mountains. Mumbī is the seat of the head of the Bahmais, a large and until recent years distinctly predatory tribe, and it was he who was to see us through to Tang-i-Sarwak and thence to Dālūn. The track leading on to Mumbī across the high range, along the foot of which the route from Lindeh had lain, was described as quite as troublesome as the one which had brought us so far. So it was a relief when a message sent ahead brought Ghulām Ḥusain Khān, the young Bahmai chief, by the morning of January 5th to our Naiyāb camp, thus saving us the move to Mumbī. It was a day of heavy rain which would have precluded any move ahead, even if men and beasts had not been in need of a day's rest. The halt was all the more expedient in view of the bad name which all the 'Lūrs' — as the hillmen of the whole region, whether Kohgalu or Bakhtiārī, call themselves — agreed in giving to the Tang-i-Sarwak.

The day, at an elevation of some 4000 feet, was bitterly cold and damp. Fortunately there was plenty of fuel to comfort our men, with big fires lit outside their tents, and the gendarmes of the escort who had sought shelter in the huts of the hamlet. Wretched enough these huts looked with their rude walls of loose stones, covered with dry boughs and reeds. But the poverty of their occupants was fully revealed only when, through the carelessness of some of the escort, one of the huts caught fire and blazed up. What was carried out of it in great haste by the scared women were only small bundles of ragged clothing, besides a few pots and pans. With big sticks the fire was quickly beaten down before the wind could spread it to the neighbouring huts. No belongings were lost, and a modest amount of silver amply compensated the aged owner for the labour and material needed to restore his habitation. From the hard conditions of life here observed it was pleasant to turn my eyes to the abundant growth of big oak and other trees covering, park-like, the slopes around, and to be told of vines, figs and almonds grown in Qubādh Khān's orchard hidden in some glen of the mountains behind.

The sky had completely cleared overnight, and on the morning of January 6th, after saying farewell to the cheery Taiyibī Khān, we set out to the south-west for the pass of Tang-i-Sarwak. The way led at first down into a fairly open valley watered by small streams from the rugged high range towering above it on the west. At two points, called Bardauja and Dō-āba, ruins of well-built houses, like those of Tāshān and Deh-dasht, attested that this ground a few centuries ago had known life of a more civilized

type than led here now. Then beyond the hamlet of Zainab, established among similar ruins, we began the ascent up the narrow gorge, well wooded at its bottom, which was to bring us to the pass. The track soon proved to be blocked at many points by projecting rocks and masses of limestone blocks which had rolled down from the bare slopes above. For some 3 miles beyond Zainab the mules, helped by the men, managed to get over these obstacles, till steep slippery cliffs rising above a deep winding torrent bed stopped all progress for them while laden.

A climb ahead showed me that for at least a distance of some 400 yards there was no possibility of our getting the baggage brought up except on the backs of men. Ghulām Ḥusain, the Bahmai chief, a youth of some twenty years only, was too inexperienced to warn us of the difficulties to be met when travelling with heavy baggage; had he done so I should have taken care to bring along an adequate number of tribesmen to help. In ignorance of the plight awaiting us he had moved ahead with his half-dozen armed retainers. M. Karīmī, our cheery Inspector of Antiquities, anxious as always to get to some inhabited place, had attached himself to the Khān's party. We were not to see them again until late next day, when they turned up on our way down the pass after a night spent without proper food and mainly under some rock shelter.

Realizing what faced the mules we halted where there was just space enough for the riding animals to be kept standing. Then every available man was sent down to help in carrying up the unloaded baggage. It took full

five hours of trying work before all loads and mules had been brought up and the heaviest packages replaced on the backs of the mules, the cramped space impeding reloading. Reconnoitring ahead I found that execrably bad as was the path, which led up a ravine in places only a few yards wide and choked with fallen rock, there was yet hope of the mules being got up to where the watershed promised easier ground. I could not help thinking what a fine opportunity would have offered here for our being thoroughly plundered: from the crags rising on either side a few well-armed tribesmen could have disposed with ease of an escort ten times as large.

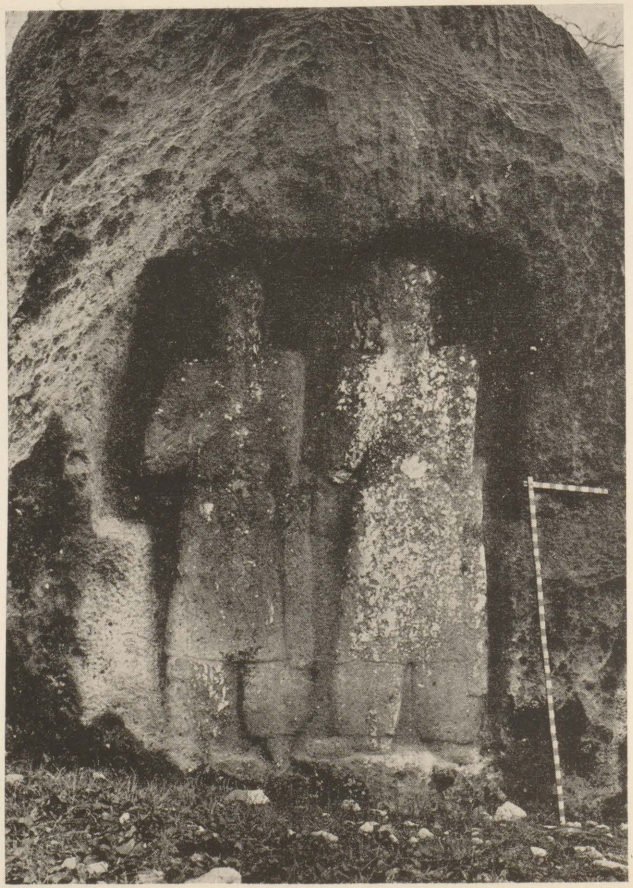
Fortunately the rain which had threatened for a time held off, and by the time the mules had been dragged up one by one over the worst of the remaining ascent the moon had risen above the forbidding rock walls on either side and gave splendid light. A portion of the less needed loads was left behind under a small guard. Once the watershed, at a height of 5300 feet, was approached the ground became rapidly easier: it mattered little that we had to drag our feet over melting snow and slushy detritus. Some 200 feet below the watershed a small terrace was found where tents could be pitched. The mountainside, with its precipitous rock faces above and snow-covered talus below (Fig. 29), rose some 3000 feet higher in a kind of amphitheatre behind our camping-place and in the brilliant moonlight made it look very romantic. With food prepared by midnight and big fires to give warmth, all forgot the day's fatigue and gloomy forebodings.



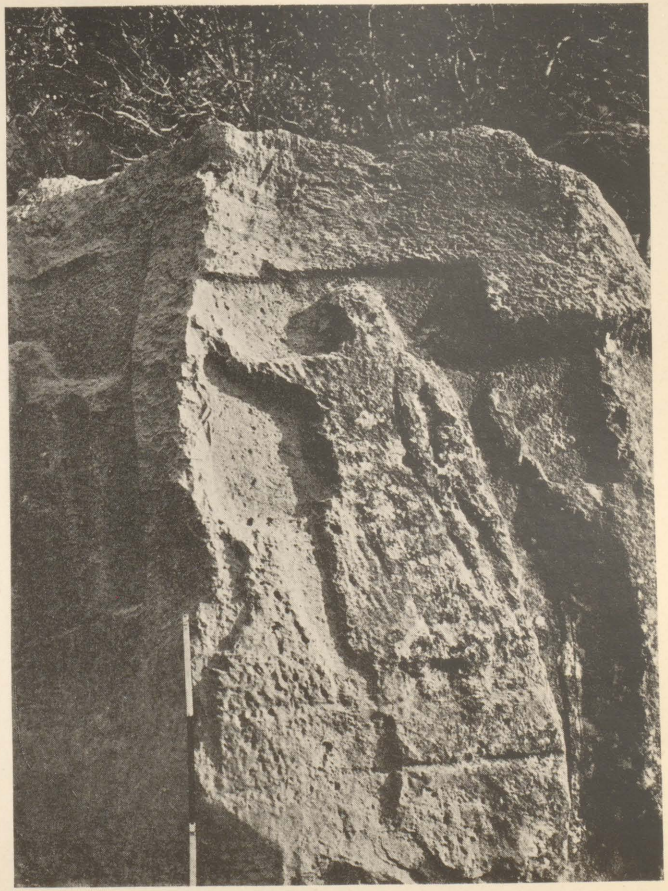
29. HEAD OF TANG-I-SARWAK VALLEY, SEEN FROM NEAR MAIN ROCK SCULPTURES



30. ROCK SCULPTURE WITH RECLINING FIGURE, TANG-I-SARWAK



31. RELIEF ON UPPER SCULPTURED ROCK, TANG-I-SARWAK



32. RELIEF ON LOWER SCULPTURED ROCK, TANG-I-SARWAK

Section v—The Rock Sculptures of Tang-i-Sarwak

On the morning of January 7th delightful sunshine lit up quite alpine scenery, while in sheltered ravines at the head of the valley could be seen fine oak trees and the tall cypresses (*sarw*) which gave Tang-i-Sarwak its name (Fig. 29). Moving down the steep slope amidst the trees we had covered less than half a mile when we found the first of the relief sculptures I had come to look for. The more important among them had been seen by Baron de Bode in 1841 on a rapid visit which, after leaving Tāshān, he had paid from the road passing the mouth of the valley.[1]

These were met after moving down the valley about a third of a mile farther, at an elevation of some 4500 feet and proved far more interesting than the rough sketches in his book had led me to expect. But for the time being I had to content myself with taking a number of photographs and noting essential features in the subjects represented and the style of the figures. It was the same also with the remains of other rock carvings and of an ancient paved road leading past them which I observed when following the gorge some 3 miles down to its entrance. I had allowed the baggage to move on to camp there in order to make it easier to secure the supplies needed for men and beasts from any encampment of nomads that might be found in

[1] See *Travels in Luristan and Arabistan*, i. pp. 351 sqq. The name 'Tengi-Saúlek' used by De Bode renders the local pronunciation of the Lūrī name *Tang-i-Saulak*. Considering the distance covered that day from Tāshān and that of the camp to which he retired the same night, the three sketches which, as reproduced in the Baron's account, illustrate the principal rock sculptures, do credit to the way in which he had used his short visit. The copy of the inscriptions as given by him is far rougher and could not serve for any attempt at decipherment.

the wide valley below. The move down resulted at first in disappointment, for though some fodder was ultimately secured overnight from a distance, no water could be secured nearer than the spring below the main group of rock sculptures.

The next two days were devoted to the close examination of all remains in the gorge and the taking of paper squeezes of the inscriptions. The latter task proved more difficult than expected; for the weather had turned bad once more, and most of the work had to be done in drizzling rain and with benumbed fingers. Higher up on the mountainside it was snowing. Naturally the paper squeezes on the rock would not dry, and being repeatedly blown down by bitter gusts of wind they had to be renewed. Finally, when on the third day of our stay tolerably clear impressions had been secured and 'inked', they had after removal from the rock to be dried by the side of big fires lit on the spot before they could be safely packed by nightfall. These unfavourable atmospheric conditions necessarily impeded my photographic work also.

In describing the remains of Tang-i-Sarwak I propose to follow for convenience' sake their topographical order from the head of the valley downwards. The first relievos are met on a detached boulder of limestone, 12 feet high. In a recess facing north are seen two standing male figures, 5 feet 8 inches high, badly effaced by exposure, particularly at their heads (Fig. 31). Long coats descend below the knees over bulging trousers tucked into boots of which one on the right foot of the figure to the right is fastened across the instep with three straps. No other details of dress are recognizable. In the case of both

figures there hangs from the waist on the left side what looks like a broad scabbard, while the left arm seems to carry a club-like object; but this is just as uncertain as the interpretation of the figures themselves. On the east face of the same boulder, in a recess about 5 feet 8 inches long, there is a badly damaged figure reclining on a couch. The height from the top of the head to the left elbow resting against the couch is 3 feet 6 inches. Here, too, I cannot suggest an identification.

Descending the path leading to the pass for about 650 yards the main group of sculptures is found on two large detached rocks occupying a small wooded terrace at an elevation of about 4500 feet. The larger rock to the south of the path has a maximum height of 20 feet at the north-west corner and at the foot of its northern and western face measures about 21 feet in length. The undecorated faces to the east and south have an approximate length of 11 and 17 feet respectively. The northern face, which recedes below and overhangs above, has relievos in two registers; both have suffered much through erosion by rain water. The upper one (Fig. 30), which is about 6 feet high, shows a male figure reclining on a couch, with the right hand holding a wreath or crown and the left arm resting on a pillow. The right leg is bent upwards at the knee. The head, which is much weather-worn, looks small.

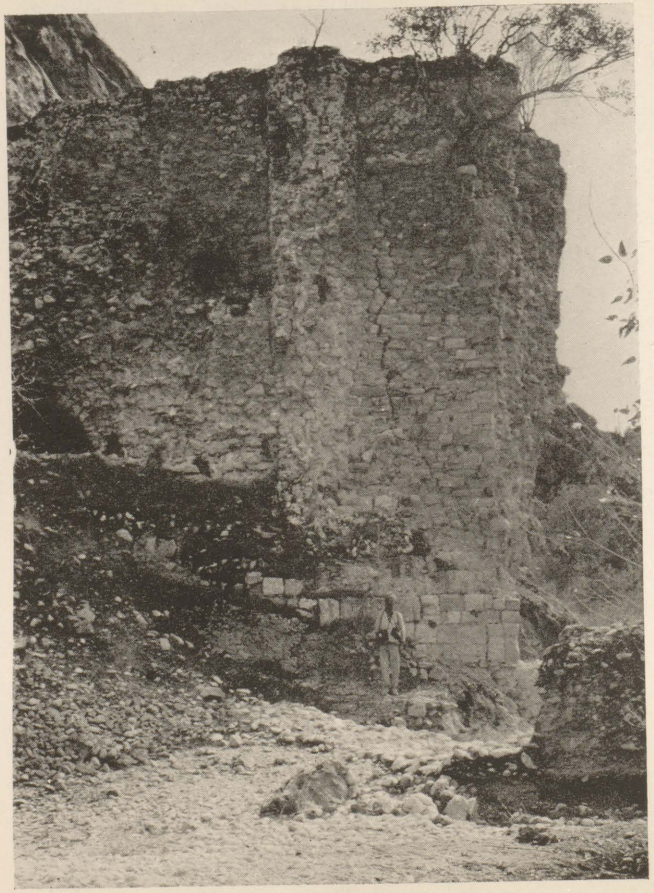
A very curious feature is the bottom of the couch, which is fringed below with a row of small bells, while beneath it are shown, with complete disregard of perspective, four feet supporting the couch. These feet, which at first sight might have been supposed to resemble the lions' feet common in the classical and Indian representation of

seats and couches, looked to my eyes and those of the Surveyor also like having the shape of birds. One 'foot' is completely effaced. Below the heads, of which one looks human while two others show beaks, I thought I could recognize wings half-outstretched and crossed feet as in certain Byzantine representations of angels. At the feet talons spread out as in heraldic representations of eagles. I regret that my equipment would not allow of photographic verification of these very curious details.

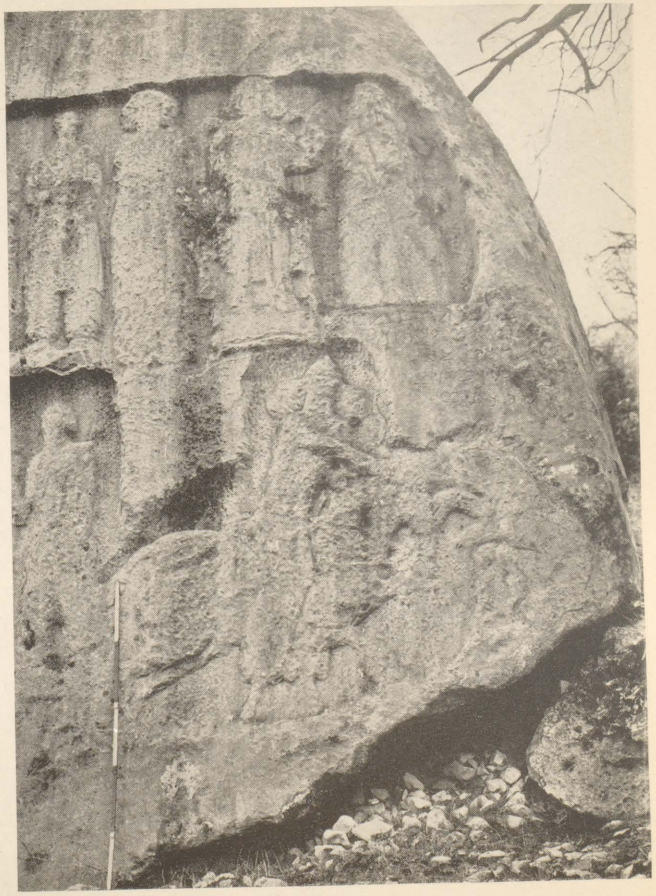
To the right of the couch there survive the feet of an attendant figure. To the left of the reclining personage are seen seated two tall male figures holding lances or spears decorated at their heads with fluttering bands. The execution of these two figures looks coarse and primitive. Above the sculptured portion of the rock are traces of a large inscription in three lines occupying a surface about 2 feet high. But only very few characters, resembling in type those of the inscriptions mentioned further on, are recognizable with any clearness from below. Arrangements for taking an impression were not practicable with the means available at the time. To the right of the panel a few characters are left of an inscription, the rest of which has disappeared, the rock having broken away. The characters are of the same Aramaic type as found in the inscription on the lowest block of the altar to be mentioned later. The panel in the lower register shows three standing figures, all much effaced. Of the middle one only the outlines remain; of the one to the left, only the lower portion of the coat and the trousers can be made out; on the figure to the right are seen still a girdle and what looks like a sword. To the left the rock surface out-



33. RELIEFS ON WESTERN FACE OF MAIN SCULPTURED ROCK, TANG-I-SARWAK



34. PIER OF UPPER BRIDGE ON LEFT BANK, PUL-I-BRĪN



35. RELIEFS ON WESTERN FACE OF MAIN SCULPTURED ROCK, TANG-I-SARWAK

side the panel bears a framed space which seems to have been intended for an inscription but holds only a crude representation of a tree (?).

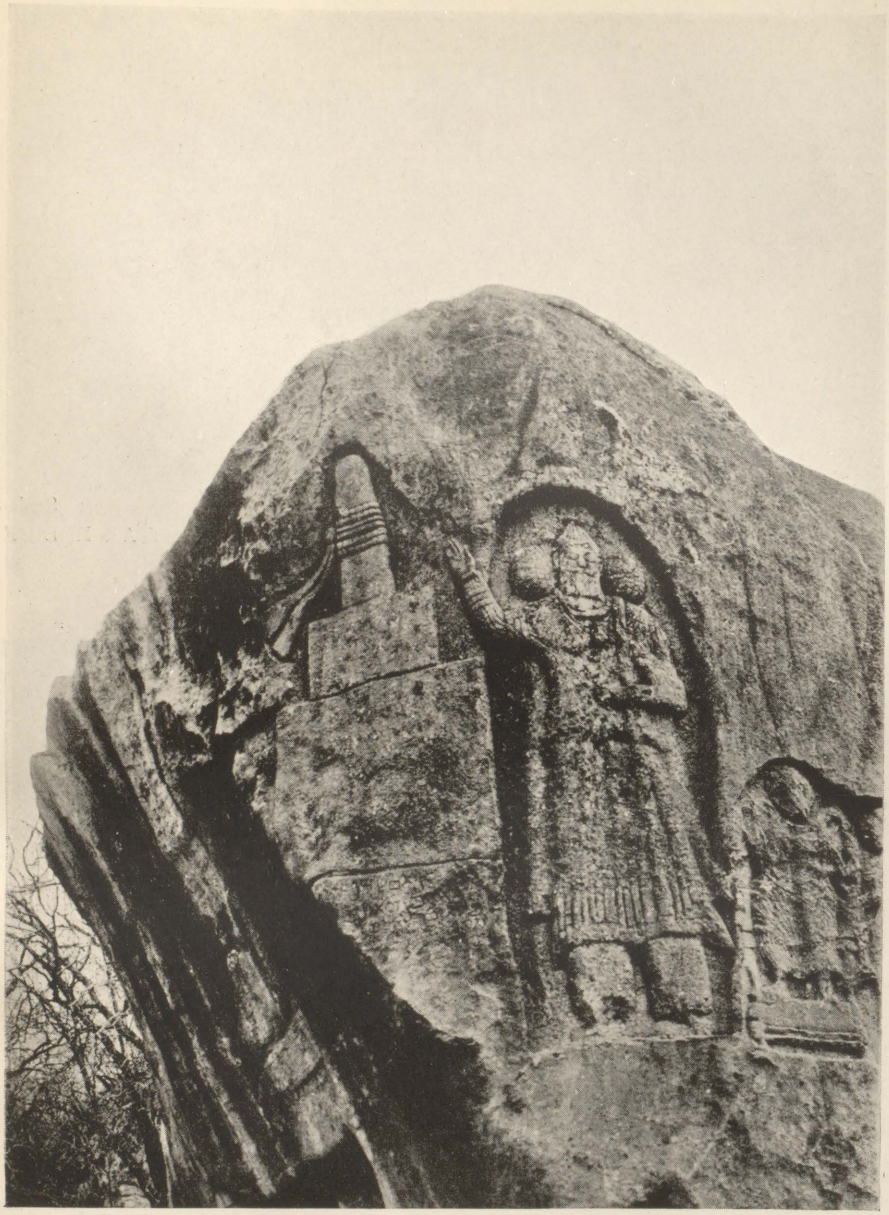
The western face, somewhat better preserved than the northern, bears relievos in three registers. The top one (Fig. 33), $5\frac{1}{2}$ feet high over a length of 12 feet, shows on the extreme left a seated figure enthroned and obviously meant for a king, dressed in a voluminous folded robe, with diademed (?) head and a wreath-like object on the left. The whole curiously recalls the representation of an emperor on late Roman coins. To the right is seen standing a slightly taller male figure dressed in a long robe and wide trousers and wearing a wig-like head-dress. His right hand touches the throne or holds the wreath, while the other hangs down by his side. Next follow four standing figures, dressed similarly but wearing a less ample head-dress. Their arms are folded over their breasts. On the extreme right are seen three figures wearing more ample robes, but too poorly preserved to make out details. The middle figure is seated, with the right hand resting on the waist and the left slightly raised, holding what might possibly be meant for a falcon. The uppermost relievo panel is clearly meant to show a royal personage with his court, the group of three on the extreme right representing perhaps a member of the ruling family with two attendants.

In the middle register (Fig. 42) are seen four standing figures, 5 feet high, wearing long robes and with their hair dressed in a much simpler fashion. Their right arms are raised above the height of the shoulder, in a gesture of worship. At the extreme left, where the rock face caves in, appear a pair of much smaller standing figures in

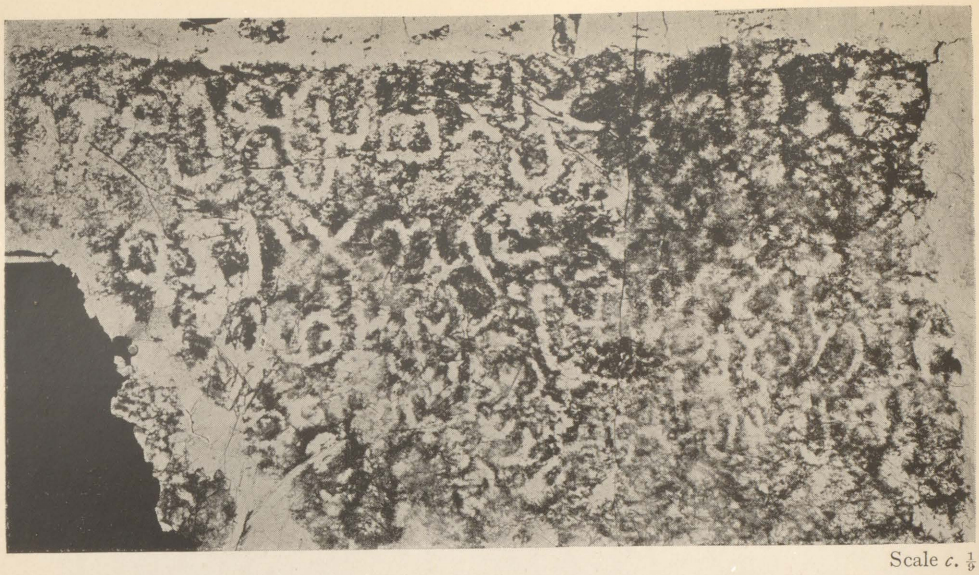
similar attire and attitude. The rock space left at the right end of this register has been utilized for the spirited representation of a mailed horseman charging with his lance a rampant lion (Fig. 35). The abundant locks and the pointed helmet of the horseman give him a typically Parthian look, and in keeping with this are the curving bow shown to the right of the head and the quiver hanging from the waist. Below the centre of the middle register is seen, poorly preserved, a large standing figure of a man, 6 feet high (Fig. 42) grasping with his outstretched right hand the gorge of a seated lion. This figure was embedded in the ground and became fully visible only on excavation.

The most striking relievo of this rock is found on the fairly flat north-western corner (Fig. 36). There is seen the colossal figure, $9\frac{1}{2}$ feet high, of a bearded and moustached man pointing with raised right arm to the sculptured representation of a short column slightly tapering towards a rounded top. About the middle of the column is tied a sash-like girdle with the knot on the left, from which two long free ends float outwards and downwards. Immediately above and below the girdle are double rows of small roundels. The column stands on a high base, presumably an altar, composed of three blocks placed one above the other. The two lower ones are each 3 feet square and of equal size. The upper block is rectangular and slightly smaller. The height from the bottom of this rectangular block to the top of the column is 5 feet.

It is the most impressive and also the best preserved of all the relievos of Tang-i-Sarwak, and there can be no doubt that it is meant for a lesson of religious propaganda. The



36. COLOSSAL RELIEF FIGURE WITH ALTAR ON MAIN SCULPTURED ROCK, TANG-I-SARWAK



Scale *c.* $\frac{1}{5}$

36A. ESTAMPAGE OF INSCRIPTION ON LOWEST BLOCK OF ALTAR RELIEF ON MAIN SCULPTURED ROCK, TANG-I-SARWAK



Scale *c.* $\frac{1}{5}$

36B. ESTAMPAGE OF INSCRIPTION ABOVE HEAD OF LION ON MAIN SCULPTURED ROCK, TANG-I-SARWAK

object on the altar, the adoration of which this curious sculpture is intended to enjoin, can scarcely be anything else but a bætyl, one of those sacred stones the worship of which has played a conspicuous part in the religious practices of the Near East from very ancient times down to the present.[2] The colossal figure of the priest (may we not call him the Magus ?) shown in low relief wears a low conical cap below which the locks protrude in big bunches on either side like a wig. Round the neck is shown a chain from which hangs a jewel. Over a long robe with ample folds and pleated ends below the knees hangs a mantle wide open in front. Baggy trousers reach down to the boots. The richly folded sleeve covering the raised right arm seems to form part of a short coat worn over the robe.

In a space, 3 feet square, on the face of the lower block of the altar is found an inscription of five lines, incomplete on the left side owing to damage of the rock surface, with characters which resemble the type of Aramaic writing attested for the late Parthian period. Another somewhat better-preserved inscription of five lines in the same characters is engraved in the middle register above the head of the lion. Photographs from the complete impressions taken of these two inscriptions (Figs. 36, a, b) have been supplied to two Iranist scholars, but I regret that up to the present no interpretation of them has become available to me. But whatever the contents when completely deciphered may prove to be, the character of the script clearly points to the later Parthian period.

[Since the above was written Dr. W. B. Henning, one of

[2] Here a reference to the article *Bætylia* (Lenormant) in Daremberg–Saglio, *Dictionnaire des Antiquités*, i. pp. 642 sqq., may suffice.

the two scholars referred to, has, after examining also copies made by the hand of Surveyor Muḥammad Ayūb Khān, kindly furnished me with the following statement of his opinion :

" The writing constitutes a hitherto unknown development of Parthian (Arsacid) writing, the best known representations of which are the writing of the Awroman Documents and the script of the Parthian text of some Sasanian inscriptions (Ḥajjīābād, Paikuli, Shāpūr), sometimes called ' Pahlawīk '.

" The script of Tang-i-Sarwak, however, is neither the prototype nor a development of either of these two forms of writing, but an independent, possibly provincial, development which shows a marked tendency towards cursiveness."

A short distance to the north of the large sculptured rock lies another big limestone block bearing on its southern face a very interesting relief sculpture (Fig. 37). It measures close on 8 feet in length up to the point on the right where the surface portion of the rock has broken away. The surviving relief shows a mailed knight mounted on a heavy charger, also mailed, in the act of charging. It is a striking representation of one of those cataphracts of the Iranian armies from Parthian times downwards, who for centuries were such formidable antagonists to Roman and Byzantine forces. The horseman, completely clad in mail armour, wears a conical helmet with curtain of chain-mail descending below the neck. From either side of the head profuse locks protrude. He carries a very long lance in the right hand. The long object hanging behind the rider's right leg, not easy to make out, may perhaps be meant for a quiver. The back and flanks of the horse are completely covered with mail, formed of oblong scales riveted at their



37. RELIEF OF CATAPHRACT ON SCULPTURED ROCK, TANG-I-SARWAK

upper edges. From below the horse's tail hangs a large pompon.

Above the butt end of the lance appear two small figures. The one on the left is seen drawing a bow in the act of shooting. A scarf floating behind suggests rapid movement. The other figure to the right, the details of which have become indistinct, seems to carry a burden over the head, supporting it with both arms. A ring and chain (?) shown below this figure might possibly suggest that it represents a captive. Below the feet of the figure on the left is seen the prostrate body of an enemy with head and arms hanging downwards.

On descending from this main group of rock sculptures for about 1 mile by the path leading to the mouth of the gorge there is seen at an elevation of about 4000 feet a small detached rock bearing relievos (Fig. 32). The one on the north face shows a standing figure, 4 feet high, dressed in a wide robe descending close to the feet with the right hand raised high above what manifestly is a fire altar. A curl falling from the hand may be meant for incense or some other material intended to feed the fire. Over the head, much effaced, there seems to be a hood or cowl. The attitude suggests in the first place an act of Zoroastrian worship. To the right of this on a lower level is seen a smaller figure in the same pose before an altar resting on a ziggurat-shaped base. On the back of the boulder are two relievo figures very badly decayed. On the eastern face of the rock is shown a standing figure with a haloed head and wide flowing mantle. Both arms are outstretched, the left hand resting on a staff or club. A divinity seems to be intended. The treatment of the figures in these

carvings looked to me more free than in the relievos higher up.

From this rock a well-aligned paved bridle-path leads down the steep slope. It is traceable with some very short breaks to within a mile from the entrance of the gorge. Before it reaches the lower sculptured rock it passes the foundations of a ruined tower or similar defensible structure, just where precipitous cliffs close in upon the gorge and provide a position particularly adapted for a *darband* or small *chiusa*. There are here also traces of a wall running up to the foot of the cliffs on the left side of the gorge. There still remain to be noticed two ruined cisterns just below where the Tang-i-Sarwak gorge after its junction with a small valley descending from the north, known as Tang-i-Mughāra, opens out on a wide rubble-strewn alluvial fan. Fine tall trees were to be seen also high up in this valley on the slopes of the Kōh-i-Mushta.

As regards the general character of the site marked by the remains of Tang-i-Sarwak it deserves to be noted that walled-up ancient terraces meant for cultivation were to be seen on the more open ground near the head of the valley, and also traces of a canal carried along the cliffs high above the ancient bridle-track. The fact that this track stops some distance below the main group of relievos and that no trace of any improvement of the route could be found on the other side of the pass seems significant. It suggests that the choice of the position for the rock sculptures was not due to a wish to attract the attention of wayfarers on a much-frequented route, but resulted from the site having seen prolonged occupation by people commanding the resources necessary for getting such work done.

Until the inscriptions are deciphered and their contents known conjectures on this point can carry little weight; but attention may be drawn to the fact that the head of the Tang-i-Sarwak with its abundant tree-growth, its ample water and cool air would have been admirably suited for a summer retreat for any local chief or governor holding authority over neighbouring parts of the fertile but hot plains of Khūzistān. The example set by the seasonal migrations of the Achaemenian rulers and their court from the capitals in Mesopotamia and Susiana to royal seats on the plateaus of central Persia is not likely to have remained without its influence upon the disposition of their Parthian and Sasanian successors and of those who held local sway under them. To put it quite briefly, the head of Tang-i-Sarwak, within easy reach of the Behbehān district, may well have served as the 'hill station', to use the term of British India, for those who ruled or administered in Parthian times that portion of ancient Susiana.

CHAPTER III

THROUGH BAKHTIĀRĪ HILLS

SECTION I—PAST THE 'GYPSUM GATE' TO MANJANIK

THE marches on which we started on the morning of January 10th from the mouth of Tang-i-Sarwak were to take us to the eastern edge of the district of Rām Hormūz and the extreme south of the Bakhtiārī country. The region, though at the time as yet practically unmapped, had become better known through the search for oil among its gypsum hills; hence my description of these marches may be more succinct.[1] The first march took us down into a wide stony valley overlooked in the west by the bold isolated peak of Kōh-i-Nādir, rising to 5900 feet. Its top forms a natural fastness and had been held by Ḥusain Khān, chief of Mumbī, leader of the last Bahmai rising and father of Ghulām Ḥusain Khān, before he surrendered to meet his end at Tehrān. I was told that several old cisterns, partly rock-cut, were to be seen on the stepped rock pinnacle, but no ruined structures. The huts of the small hamlet of Bābā Aḥmad, where we halted for the night, cluster round the shrine of an Imām-zādeh, much visited by Kohgalu people, especially at the Naurōz, the

[1] The route from Tangi-i-Sarwak to Mālamīr is the same as followed by De Bode in 1841; for an account of his observations on it, see *Travels in Luristan and Arabistan*, i. pp. 370 sqq.

Persian New Year's Day. The Qal'a-i-sangī close by, situated above a fine spring-fed rivulet, proved a small irregular enclosure roughly built with undressed slabs of freestone, and comparatively recent.

The next day's march led up a gently sloping broad valley between low foothills, stretching to the north-west along the foot of the rugged high range which continues from the Tang-i-Sarwak towards Mumbī. Beyond a low saddle forming the watershed towards Bulfārīz the area held by the small semi-nomadic Turkī tribe of Lerkīs was entered. While stopping at their winter camp of Bulfārīz for the night I was told that the tribe had been transplanted here from the side of Isfahān when in the 18th century Bakhtiārī chiefs held sway there. The alert and capable officer in charge of the Bahmais and other Kohgalu tribes to the north-east, who had come to meet me from Mumbī, had much to tell of the rude and troublesome conditions of the life he was obliged to lead there. Whether it was he who was killed during a recently reported Bahmai rising I do not know. He told me of a mountain fastness, known as Qal'a-i-tala, reported to him as situated in a gorge opening to the east of the triangulated peak which the Survey of India Sheet No. 10.E marks with the height of 4860 feet. Its remains had been described to him as consisting of some cisterns and 'gates' built with rough stones and mortar. It was at Bulfārīz that I noted for the first time the light reflected on the night sky from a burning gas flare at a far-off oil well. Such lights were thereafter on many a night to signal to me the extent of the great Anglo-Iranian Oil Company's far-reaching operations in this hill region.

Our march of some 18 miles on January 12th took us

up a wide alluvial fan past the small detached hillock of Dizākhūn bearing a small ruined fort. For close on 2 miles walled-up terraces marked an extensive old cultivated area, once irrigated from a stream descending from the Tang-i-tala. From the watershed, reached at an approximate elevation of 2800 feet, there came into view the well-cultivated tract containing the several villages of Petak and Dālūn on both sides of the Rūd-i-Pūtang (or Pūtū as it is called locally). After crossing this river, heavy rain detained us for a day at Dālūn fort. Here we found ourselves in Bakhtiārī territory. Getting into touch there with two brothers of the chief of the Chahār-lang section of the Bakhtiārī tribes, then imprisoned at Ahwāz, I was enabled to gain some idea of the change from departed tribal glories to conditions under the present regime.

Before resuming our journey on the morning of January 14th I visited the remains of Qal'a-i-sīr, occupying a narrow plateau about 2½ miles above Dālūn on the right bank of the Rūd-i-Pūtang.[2] The plateau, which fills an angle between the deep-cut river-bed and a dry ravine to the north of it, offers a fair position for defence. Broken walls of dwellings built with large undressed stones stretch for about half a mile up the small plateau. In a minority of the ruined structures, showing masonry with inferior mortar, niches in the walls divided by remains of transverse arches once supporting barrel-vaults closely resembled constructive methods seen at the ruins of Tāshān and Deh-dasht. But here advanced decay pointed to a

[2] De Bode had heard of them as situated at a distance of "4 Farsangs" (14 or 15 miles) from Sarila village; cf. *l.c.*, p. 386 note. The real distance is about 7 miles.

somewhat earlier date of abandonment. In a steep and narrow ravine known by the name of Aubīd, which was visible some 3 miles higher up to the north-north-east, remains of a small fort, with some ruins of the same type, were said to be found near a spring.[3]

After regaining the vicinity of Dālūn the track led along the western foot of a hill chain overlooking a broad belt of cultivated ground irrigated partly from the Rūd-i-Pūtang and the Rūd-i-'Alā. Here we passed successive stretches of sloping ground covered with debris from completely decayed stone walls. No definite indication could be traced on the surface as to the age of the old village sites. The first, passed about $1\frac{1}{2}$ miles to the north-west of Dālūn, occupies terrace-like ground and is known as Wālīābād. The next, about the same distance farther on, stretches on a low ridge for about two-thirds of a mile, with a width of 150 yards. It is called Qal'a-i-Nimishkū and is ascribed to Gabrs or Zoroastrians. Similar but less distinct remains are visible up to the village group of Sarila. Massively built walls observed all along high up on the rocky hill-side once carried a canal fed by the Rūd-i-Pūtang. Beyond Sarila the track turns sharply to the east at a projecting hill spur, and on crossing this a well-cultivated belt of alluvial ground came into sight on both sides of the Rūd-i-'Alā. It is known as Mā-i-dā'ūd after the principal village on the right bank. The reported Qal'a-i-Antar to the south of the river proved an isolated conical hill without structural remains.

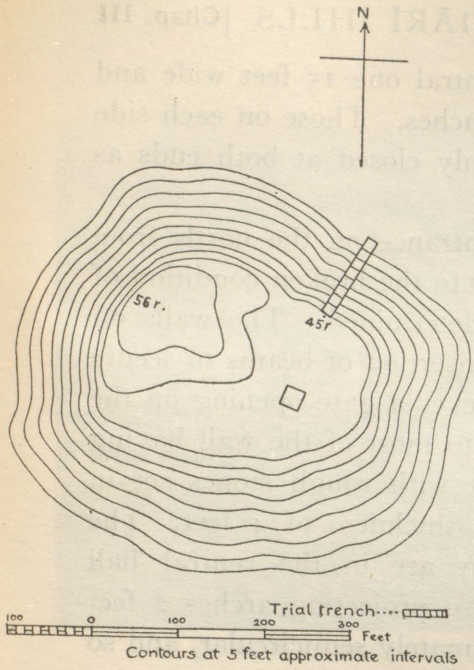
[3] This is obviously the "fort in the mountains called *Obid*" which was mentioned to De Bode by his guide from Sarila as situated 29 miles away and which the traveller judiciously enough left unvisited; see *l.c.*, p. 385.

At the fort of Mā-i-dā'ūd regard for the long stretch of waterless gypsum hills to be crossed to the north obliged us to stop after a short march of only 12 miles. It was curious to learn from the elder of two Chahār-lang Bakhtiārī Khāns of the place, who had been kept at Tehrān for forty years, that Layard's visit to the Bakhtiārī hills was still locally remembered. But it might well be questioned whether this recollection after nearly a hundred years did not owe its revival to the visits of English travellers interested in Layard's famous *Early Adventures* published in 1887. However this may be, it was a great satisfaction to find myself now on the track which had seen that great explorer and diplomat pass in 1840, and to be able to follow it subsequently right up to the Kārūn.[4]

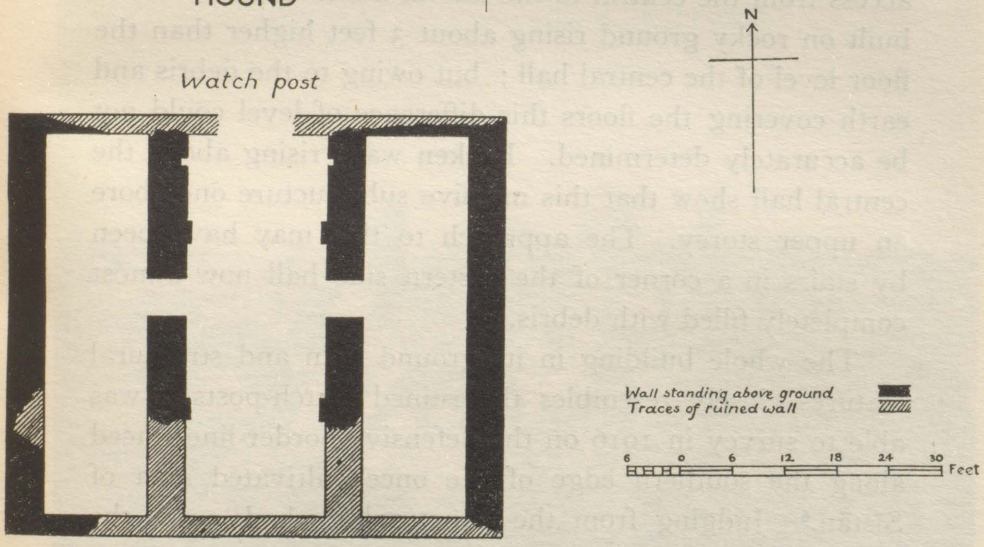
Our march of January 15th led northward across a great tableland of broken gypsum ridges and shallow ravines, which rises fully 1100 feet above Mā-i-dā'ūd at the interesting ruin known as *Gach-darwāzeh*, 'the Gypsum Gate'. The winding track which ascends to this site is very steep and, owing to the slippery surface of the gypsum rock, distinctly trying in places. The ruined structure (Fig. 39), as its modern name shows, is popularly supposed to be an old toll-gate where *rāhdārī* was levied, and it figures as such in De Bode's brief account and illustration.[5] In reality it is a defensive guard station occupying a small gap on the top of the much broken plateau, with a small ruined serai adjoining it, as the plan (Plan 8) shows. The post, a rectangle measuring 55 feet by 48 feet outside, contains three vaulted halls extending through the whole

[4] See Layard, *Early Adventures in Persia, Susiana and Babylonia*, i. p. 461 sq.

[5] See *Travels in Luristan*, i. p. 390 sq.



9. SKETCH PLAN OF TAIKHĀN MOUND



8. SKETCH PLAN OF POST AND SERAI, GACH-DARWĀZEH

length of the structure, the central one 15 feet wide and the two lateral ones 11 feet 6 inches. Those on each side of the central hall were certainly closed at both ends as shown by the remains of walls.

The central hall had an entrance on the north from the side of the serai, but owing to the broken condition of the wall its width cannot be determined. The walls on either side show holes for the insertion of beams to secure the gate. Whether there was ever a gate opening on the other side is uncertain, owing to most of the wall having fallen there. The walls, built with rough stones set in hard mortar, have a uniform thickness of 4 feet. The barrel-vaults which they carry are in the central hall divided into three bays by two projecting arches 2 feet wide. The vaulting is approximately semicircular, and so is that over the passages, 4 feet 6 inches wide, which give access from the central to the lateral halls. The latter are built on rocky ground rising about 3 feet higher than the floor level of the central hall; but owing to the debris and earth covering the floors this difference of level could not be accurately determined. Broken walls rising above the central hall show that this massive substructure once bore an upper storey. The approach to this may have been by stairs in a corner of the eastern side hall now almost completely filled with debris.

The whole building in its ground plan and structural features closely resembles the ruined watch-posts I was able to survey in 1916 on the defensive border-line traced along the southern edge of the once cultivated area of Sīstān.[6] Judging from the structural methods used, the

[6] See *Innermost Asia*, iii. pp. 972 sqq.



38. RUINED SERAI AT GACH-DARWĀZEH, WITH VIEW TOWARDS MUNGASHT-KŌH



39. RUINED POST, GACH-DARWĀZEH, SEEN FROM SOUTH-EAST



40. RUIN OF VAULTED DWELLING AT MANJANIK



41. MANJANIK SITE, SEEN FROM RIGHT BANK OF RIVER

'Gypsum Gate', like those posts, may be attributed to Sasanian or perhaps late Parthian times. But in the case of both ruins only complete clearing could furnish definite chronological indications.

Only 20 feet from the north-eastern corner of the post lies a badly decayed ruin of a quadrangular structure, measuring about 75 feet by 57 feet, which evidently was a small serai. Its walls of rough stones set in mortar, 2 feet thick, rise nowhere to more than 2 feet above the ground; for the most part only their foundations can be traced. The entrance, 11 feet wide, led into an open court from a roadway passing on to the gate of the post. The entrance was flanked by two apartments of unequal length, the entrances to which could not be determined. This was the case also with three long apartments along the other three sides of the court which may have served for stabling.

A large hole within a depression to the north of the serai may perhaps mark the position of a cistern for collecting rain-water. There were no remains of dwellings to be seen anywhere on the plateau, which indeed owing to the absence of water could never have offered inducement for permanent occupation. The guard post and the serai immediately below its walls could have been meant only for the protection of traffic passing along this route, so peculiarly exposed to banditry. Layard, who correctly recognized the true character of the Gach-darwāzeh, specially notes the risk with which travellers on that route were threatened by Bahmai forays at the time.[7]

A long descent over somewhat easier ground offered a fine view towards the great snow-covered massif of the

[7] See *Early Adventures*, i. p. 461.

Kōh-i-Mungasht to the north-east dominating the valleys of Qal'a-i-tul and Mālamīr. Then descending the valley below the village of Manganān we reached by nightfall the ruined site of Manjanik on the left bank of the Buliwās river, which drains the southern slopes of Mungasht. The site had first been brought to notice by Sir Henry Rawlinson in his account of the expedition which in 1836 brought him in command of Persian troops to the famous mountain fastness of Qal'a-Mungasht.[8] He had not been able to visit the site, and the description he had received of it from his Bakhtiārī informants was proved to have been greatly exaggerated when Sir Henry Layard in 1840 was able to examine its remains.[9] All the same it afforded me much satisfaction to have first approached here ground which had seen Sir Henry Rawlinson, that great scholar and explorer, a kind patron to me during the closing years of his life, pass on that memorable expedition.

On terraces stretching for half a mile along the left bank of the river[10] there lie ruined habitations of what appears to have been a considerable place from Sasanian down to early Islamic times (Fig. 41). These terraces rise from the edge of the deeply cut bed to about 200 feet above the river. The total width of the ground covered by the remains of still recognizable vaulted dwellings may be estimated at fully 300 yards. The remains are those of

[8] See his paper, 'March from Zōhāb to Khūzistān', in the *Journal of the Royal Geographical Society*, ix. (1839), p. 81.

[9] See Layard's note, 'Ancient Sites among the Bakhtiari Mountains', *ibid.* xii. (1842), p. 103. A brief but in essentials correct description of the site was given by Sir Henry Layard forty-five years later in *Early Adventures*, i. p. 431 sq.

[10] Its name *Buliwās*, as locally heard, is treated by Sir Henry Rawlinson as a Lūrī rendering of the Persian designation *Āb-ul-'Abbās*.

houses with vaulted rooms, varying in number and size (Fig. 40). They are all built with rough stones taken from the river-bed or the rubble deposits of the terraces, and set in mortar. The barrel-vaults vary in section from approximately semicircular to nearly keel shape. The sharp-pointed arches seen at Tāshān and Deh-dasht are completely absent. Often one larger apartment is adjoined by two or three narrow passages. The disposition of the dwellings is quite irregular, except where they are built in a row against the topmost terrace bearing the huts of the present hamlet. In one of them is seen a well approached by a narrow vaulted passage. At the eastern end of the site a conglomerate hillock, about 150 feet high, rises above the uppermost terrace. Its top is occupied by an Imām-zāda and the poorly built dome of a tomb. Half-way down are seen remains of the base of a round tower built with large roughly hewn blocks of stone, which is perhaps older. Beyond the hillock a few better preserved ruins have been adapted for modern occupation. Of a bridge once spanning the river-bed near the middle of the site three badly decayed piers survive on the right bank. Their masonry resembles that of the Sasanian bridges at Tang-i-Brīn and Khairābād.

No distinct buildings can be recognized on the right side of the river, apart from a small ruined structure of later date, shown by a prayer niche to have been a mosque. Much material from decayed dwellings seems to have been built here into walls supporting cultivation terraces. The pottery types to be found among the ruins bear out the approximate dating of the occupation of the site from Sasanian down to early medieval times. They comprise

blue and green glazed ware, often ribbed, some glazed pottery with incised design such as found at Tīz,[11] and also some plain ware with stamped decoration. A curious local legend looks upon Manjanik as the site where, according to a Muhammadan story, King Nimrod cast Abraham of the city of Ur with a catapult into a fiery cauldron. This location of the story is likely to be due to a 'popular etymology' connecting the name of the place with the word *manjanīk*, derived from the Greek term for a military engine used for hurling stones.[12]

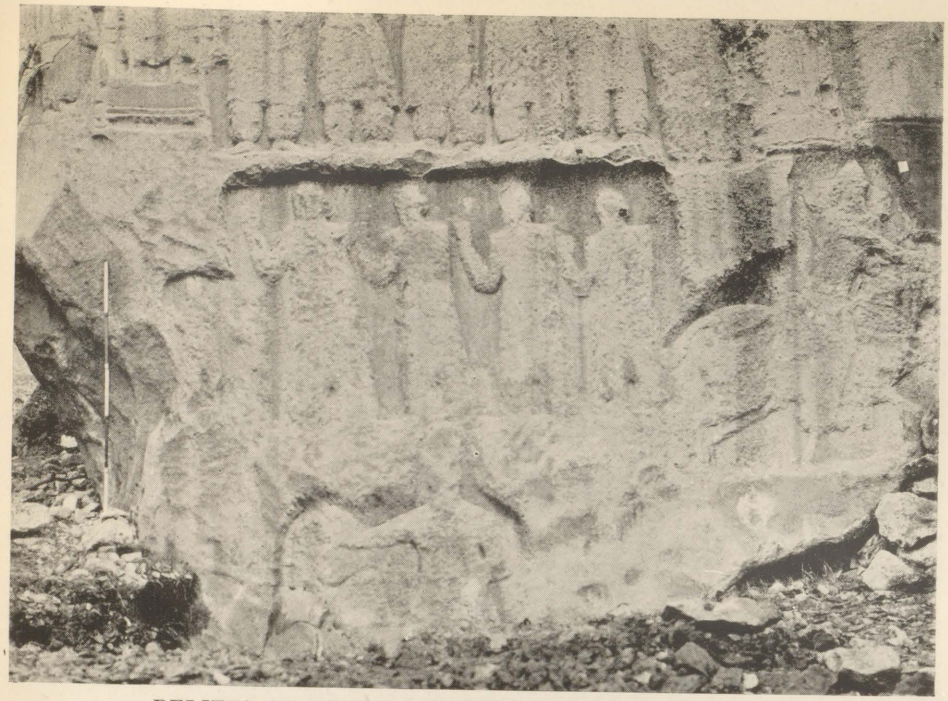
Section ii—Qal'a-i-Tul, Mālamīr and Sūsan

To the north of Manjanik there extends an open peneplain easy to cultivate and potentially fertile, which accounts for the name of its principal village, Bāgh-i-malik, the 'Royal Garden'. It forms one of a string of wide valleys which extend in a uniform line towards the Kārūn river, separated from each other only by easy saddles. They afford more space for settled agricultural occupation than probably can be found in such close proximity anywhere else among the Bakhtiārī mountains. Through them passes an important old route which leads from Khūzistān to the upper Kārūn and so on to Isfahān. The practical advantages presented by this route for purposes of trade has caused it to be repeatedly followed and described by European travellers of recent times,[1] and led at the close of the last century to its being chosen for the construction of an improved caravan road. It is known

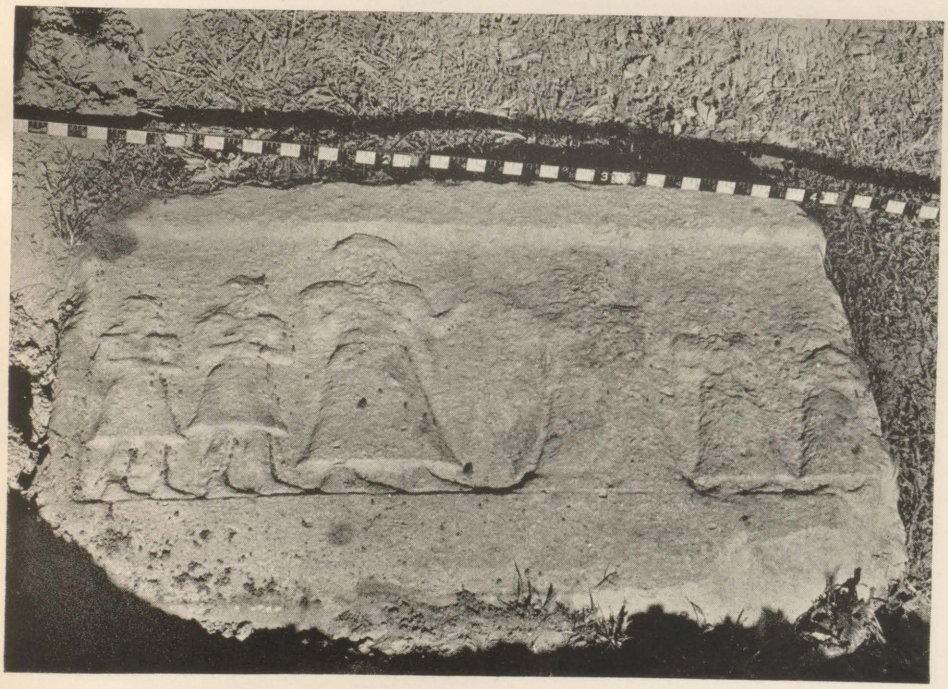
[11] See my *Archaeological Reconnaissances*, p. 90 sq.

[12] See Rawlinson, *l.c.*, p. 81; Layard, *Early Adventures*, i. p. 431.

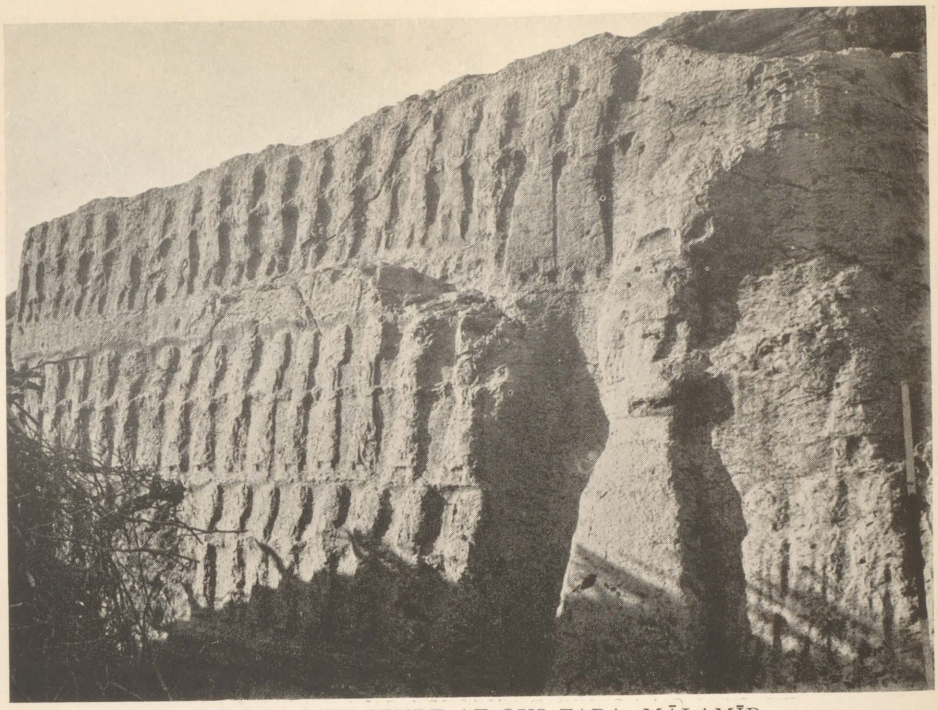
[1] For references to accounts of this route, see Curzon, *Persia*, i. p. 329.



42. RELIEFS OF LOWER REGISTERS ON WESTERN FACE OF MAIN SCULPTURED ROCK, TANG-I-SARWAK



43. ANCIENT RELIEF CARVING FOUND AT QAL'A-I-TUL



44. ROCK SCULPTURE AT QUL-FARA, MĀLAMĪR



45. ROCK SCULPTURES AT SHIKAFT-I-SALMĀN, MĀLAMĪR

as the ' Lynch Road ' after the well-known British shipping and trading firm of Messrs. Lynch Brothers, long established at the head of the Persian Gulf and Baghdād.[2]

In view of those previous notices, my account of the physical features noted on this route as far as I followed it may be brief. At the same time it deserves to be pointed out that the topography of this ground as indicated in the latest available edition of the Survey of India Sheet No. 10.E, on the quarter-inch scale, proved in need of correction in various details, as shown by the plane-table survey effected on our journey (see Sketch Map III).

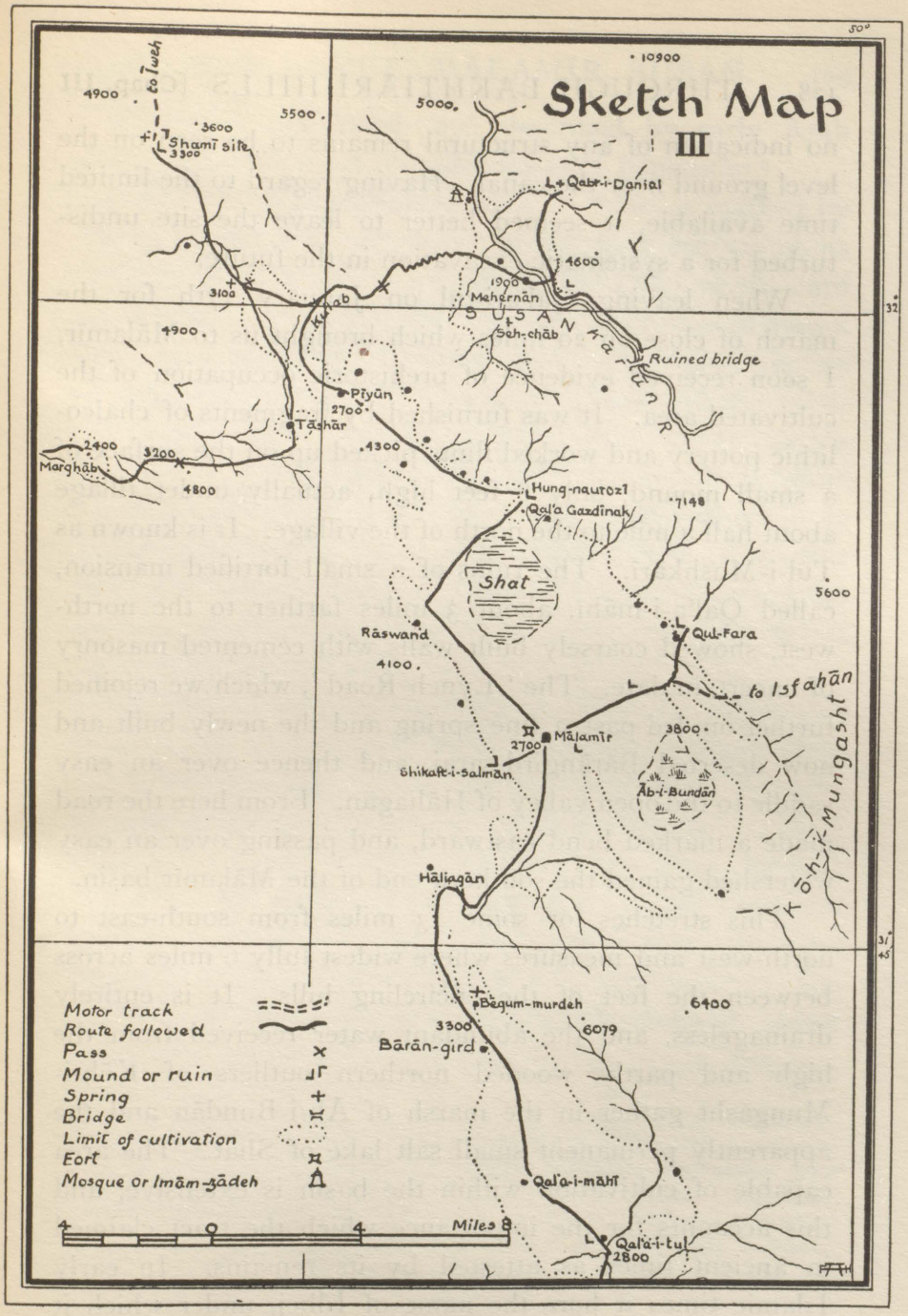
The short march along the stream, much smaller than the Buliwās, which descends from the open plain of Qal'a-i-tul left time to visit the high mound and the now deserted old castle on its top which has given its name to the village and the valley around it. The castle had been the traditional seat of the Ilkhānīs, the principal chiefs of the Bakhtiārī tribes, and Sir Henry Layard's narrative of the stay he made there in 1840 under the protection of Muḥammad Takī Khān, the powerful chieftain of the Chahār-lang subdivision, has left us a vivid picture of the life that was once led there. The buildings, which cover a mound rising to some 60 feet above the surrounding ground, are now rapidly falling into a state of complete ruin. But even thus they afford some idea of the resources, large for these parts, which the Ilkhānīs commanded at the times

[2] The use of this well-engineered road provided with bridges and caravanserais has practically ceased for trade purposes since the opening under the present regime of the motor road passing from near Dizful through Lūristān to Khurramābād and Burujird, whence both Hamadān and Isfahān can be conveniently gained. For evidence of the engineering work done in medieval if not in earlier times to facilitate traffic across these hills, see below, p. 138.

when they held semi-independent charge of the Bakhtiārī hill tribes.

That the mound has risen to its present height by accumulations of debris due to occupation since very early, probably prehistoric, times is certain. But owing to the great accretion of refuse which continuous occupation down to quite recent years has caused to be deposited on the slopes, no pottery remains of great age could be picked up on the surface. All the more welcome is the proof which the accidental discovery of a piece of ancient sculpture has furnished of the great antiquity of the site (Fig. 43). It is a relief-decorated slab of limestone which was brought to light a year or two before my visit by villagers digging an irrigation channel close to the gendarmerie post to the south-west of the village. It measures approximately $3\frac{1}{2}$ feet by 2 feet and appeared to have been detached from some structure. The sculpture in low relief represents two standing figures in bell-shaped robes, facing each other. Two smaller figures on either side seem to be carrying gifts, but the surface has suffered too much to determine the details. The coats worn by the pair of attendants on the left are much shorter than those of the pair to the right. The dress of the figures bears a Sumerian look, but my acquaintance with Mesopotamian art is too scanty to permit of even an approximate suggestion of date. So much, however, seems clear that the sculpture points to a period of Elamite domination in this region, perhaps earlier than that indicated for Fahliūn by the rock sculpture of Kurangūn.[3] Apart from a large block of stone lying near by, also dug up under a few feet of earth, there was

[3] See above, pp. 36 sq.



III. SKETCH MAP OF PORTIONS OF MĀLAMĪR AND BAKHTIĀRĪ HILLS FROM PLANE-TABLE SURVEY (FIELD RECORD, SUBJECT TO ADJUSTMENT)

no indication of any structural remains to be seen on the level ground near the canal. Having regard to the limited time available, it seemed better to leave the site undisturbed for a systematic excavation in the future.

When leaving Qal'a-i-tul on January 17th for the march of close on 20 miles which brought us to Mālamīr, I soon received evidence of prehistoric occupation of the cultivated area. It was furnished by fragments of chalcolithic pottery and worked flints picked up on the surface of a small mound, only 8 feet high, actually under tillage about half a mile to the north of the village. It is known as Tul-i-Mushkārī. The ruins of a small fortified mansion, called Qal'a-i-māhī, about 3 miles farther to the north-west, showed coarsely built walls with cemented masonry of uncertain date. The ' Lynch Road ', which we rejoined further on, led past a fine spring and the newly built and now deserted Bārāngird-sarai, and thence over an easy saddle to the open valley of Hāliagān. From here the road made a marked bend eastward, and passing over an easy watershed gained the southern end of the Mālamīr basin.

This stretches for some 13 miles from south-east to north-west and measures where widest fully 6 miles across between the feet of the encircling hills. It is entirely drainageless, and the abundant water received from the high and partly wooded northern outliers of Kōh-i-Mungasht gather in the marsh of Āb-i-Bundān and the apparently permanent small salt lake of Shat. The area capable of cultivation within the basin is extensive, and this accounts for the importance which the tract claimed in ancient times as attested by its remains. In early Islamic times it bore the name of Īdhej, under which it

is frequently mentioned and described by early Arab geographers as one of the chief tracts of Khūzistān.[4]

The site of the medieval town of Īdhej is marked by a large mound near the centre of the basin bearing on its top a half-ruined castle, a seat of Bakhtiārī chiefs until recent times. Around it are scattered the mud-built houses of a fairly large modern village, which the present regime is developing as the administrative centre of the tract, now undergoing systematic settlement. Small debris mounds and traces of broken walls are found at short distances from the mound both to the south and east. At none of these did surface indications point to occupation older than medieval times. The depth of debris is too great to allow ancient remains of interest to be reached except by deep excavation.

But that Mālamīr had been the seat of a highly developed culture as far back as the Elamite period preceding the Median Empire is abundantly proved by the rock sculptures and cuneiform inscriptions attached to them which are found at several sites along the foot of the hills encircling the valley. They had all been first examined and described by Sir Henry Layard, and they have since been the subject of detailed study by others also.[5] The romantic grotto at the cleft of Shikaft-i-Salmān, about

[4] See for a full abstract of their notices, Schwarz, *Iran im Mittelalter*, pp. 335 sqq.

[5] See Layard, *J.R.G.S.*, xi. p. 103; xvi. pp. 74 sqq.; *Early Adventures*, i. pp. 404 sqq.; ii. p. 12 sq.; for other accounts Curzon, *Persia*, ii. p. 312, note 2. Concerning the inscriptions see Layard, *Cuneiform Inscriptions from Assyrian Monuments*, Pls. 36-37; Sayce, *Actes du sixième Congrès des Orientalistes* (1885), pp. 648, 681. Also De Morgan, *Mission scientifique en Perse*, Mémoires, III (Textes Élamites-Anzanites, I^e^ Série, par V. Scheil), pp. 102 sqq.; (Description du site de Mal Amir, par G. Jéquier) pp. 133 sqq., Pls. 27-33.

2 miles to the south-west of the central village, with its great rock-carved panels was duly visited (Fig. 45). The perennial spring which issues from a great cavity under frowning limestone cliffs overhanging deep recesses must have attracted worship from the earliest times. I also paid a visit to the small nullah above the hamlet of Qul-fara, 5 miles to the north-east, where on both sides of a small cleft rock are seen reliefs of sacrificial scenes with hundreds of figures (Fig. 44). Besides other similar carvings there is found under an overhanging rock wall a remarkably well-preserved relief panel with representations of a secular type, unfortunately too high up to be easily reached with the camera.

But neither these interesting remains nor the trial excavation to be recorded further on nor a heavy mail bag, with a somewhat disturbing piece of news affecting my programme of work, would have detained me at Mālamīr for six days had I not by good fortune met there with a remarkable archaeological find. It comprised remains of sculptures in bronze and marble which had some six months before been unearthed accidentally by villagers newly settled at Shamī in the hills to the north-west. At the house of the capable military administrator of the district I was shown to my surprise and delight on the day following my arrival the carefully cast bronze statue of a life-size male figure (Fig. 46), together with miscellaneous fragments of other smaller statuary. I was told that the discovery had been reported to Tehrān at the time, and that orders for the disposal of the objects were still awaited. Meanwhile it was manifestly important to secure as exact a record of the find as I could, particularly as the sculptures



46. BRONZE STATUE FROM SHAMĪ SITE, SEEN AT MĀLAMĪR



47. HEAD OF LIFE-SIZE BRONZE STATUE FROM SHAMĪ SHRINE, SEEN AT MĀLAMĪR

clearly dated from Parthian times, the least known period in the history of Iranian art.

The bronze statue, measuring 6 feet 4 inches from the top of the head-dress to the soles and 2 feet 2 inches across the shoulders, had lost its arms but was otherwise intact, except for a large hole below the waist evidently due to damage done at the time of excavation. The head (Fig. 47), cast very heavy, fits close at the neck to the body cast hollow, apparently by a *cire perdu* process. The body had got broken about the waist, probably at the same time when the hole was made, but by means of a wire fastening, as seen in the photograph, the two portions could be held together in their correct position. The hair is tied by a broad diadem-like band, fastened across the forehead and ribbed. Below it the hair bulges out in a heavy bunch on either side and down to the neck at the back.

The head is carefully modelled in unmistakably Hellenistic style, with eyes wide and quite straight and heavy eyebrows marked by low relief reproducing a kind of cable pattern. The nose is narrow and treated quite straight in accordance with Greek idealized fashion. A beard is marked by fine chiselling over the cheeks and chin, while narrow moustaches in relief hang down over the corners of the lips, curiously recalling to me a characteristic feature in the presentation of Gallic warriors in the Pergamon frieze. The stiff high neck may have been modelled in order to keep the head more securely in position over the shoulders. Below it is shown a broad torque joined in front by an oblong clasp and decorated with a kind of herring-bone ribbing. The treatment of details at

the back of the head and at the back of the body is rough, an indication that the statue was probably meant to be placed close against a wall.

The upper garment of the body consists of a coat with broad lappels, laid crosswise over the shoulders and breast and reaching down to the groin, the lower portion of the coat on the proper left being covered. Hair is marked with fine incisions all over the bare part of breast and shoulders. Folds indicate loose fitting of the coat. The waist is girt with a belt, about 2 inches wide, decorated with incised oblongs. Wide trousers, of the fashion known as *shalwār* in Irān and India, cover the legs in ample folds and reach right down over the ankles. The feet, which appear comparatively small, are encased in moccasins slightly turned up at the toes. Below the belt on the right side is shown a sword with a narrow hilt, the major part of the sword passing under the folds of the *shalwār*. Two buckles on the belt mark the fastening for the sword, but no straps are indicated. On the left side further back a dagger is shown similarly secured.

Both attire and face suggest that a royal personage of Iranian type is meant to be represented, but treated with an eye to Hellenistic ideals. At the same time certain features of the head are curiously reminiscent of those seen in figures of Graeco-Buddhist sculpture of Gandhāra.[6] The average thickness of the bronze seemed to vary from $\frac{1}{4}$ to $\frac{1}{2}$ an inch.

Whether a bronze fragment, 27 inches long, showing

[6] See, *e.g.*, the well-known figure of the so-called 'Kūshān king' or Kubera in the Lahore Museum, in whom M. Foucher has recognized a representation of Pāñchika, the leader of Kubera's host; see *L'art gréco-boudelhique du Gandhāra*, Figs. 367, 368.

the hand and draped arm from a large statue (Fig. 48) belongs to the same image just described I could not definitely ascertain. The proportions seemed to agree, but the arm would not fit closely to either shoulder. The hand, measuring 8 inches from the tip of the second finger to the end of the wrist, is delicately modelled, with nails and finger joints neatly marked. The same observation applies also to the fragmentary forearm, 10 inches long and slightly bent, from a small-sized statue. The drapery over the arm is distinctly Hellenistic, while the pose of the hand, with its strongly marked tendons, is stiffer.

The small bronze statue seen in Fig. 48 unfortunately lacks its head. It measures 9½ inches in its incomplete state and appeared to be solid throughout. A toga-like mantle passes in heavy folds over arms and breast down to below the knees. The folds bunched over the left shoulder fall in a roll down the left side and are held in position by the left hand against the hip. Below the mantle *shalwārs* reach in ample folds down to over the ankles. The feet are cased in low shoes upturned at the toes and fastened by two straps showing buttons. The right arm, broken off above the elbow, appears to have been held out in a gesture of command or protection.

There still remain to be noted amongst the sculptural remains seen at Mālamīr two marble heads also brought from Shamī. The smaller head (Fig. 49), 4½ inches from below the neck, is that of a male, unmistakably Iranian in type but treated in good Hellenistic style. The face, turned slightly to the left, shows wide-open eyes with a broad but straight nose, moustache and imperial. The ample locks are fastened over the forehead by a broad

diadem-like band, which at the back hangs down with two taeniae. The locks, divided at the top, fall down in heavy masses on either side to the neck. The small statue evidently represented an Iranian dressed partly in Greek fashion.

The other marble head, about 6 inches high, has been greatly damaged on the face and chin, is broken at the neck, and the hair is much effaced. It is that of a female, probably an Aphrodite, as it shows some features resembling the Aphrodite head recovered by me in January 1934 at the Tul-i-Ẓoḥāk site of Fārs and approximately datable from about 200 B.C.[7] But both the marble and the modelling are much coarser, and the bad state of preservation makes any definite dating impossible. The purpose of a shallow hole drilled on the top of the head is uncertain.

[Since the above description of the bronze statues and other sculptural remains from the site of Shamī was written, they have after removal to Tehrān been carefully studied and described by M. Godard ; see his full account of them in *Athar-è-Iran*, ii., 1937, p. 385.]

Nā'ib Dīn ʿAlī Khān Tabrīzī, the capable Hākim or military administrator of the Mālamīr district, told me that after the discovery of the large statue he had carried on a short excavation at the find place, but on leaving the site had given orders that no further digging was to be done. Finds of antiquities in metal are so rare throughout these parts and are so much sought after by antique dealers that I could not feel sure about this injunction being respected very long, especially after my repeated

[7] See ' An Archaeological Tour in the Ancient Persis ', *Iraq*, iii. p. 140 sq. ; Pl. xxix.



Scale *c.* $\frac{1}{5}$

48. FRAGMENTS OF BRONZE STATUES AND HEAD OF MARBLE STATUE FROM SHAMĪ SHRINE, SEEN AT MĀLAMĪR

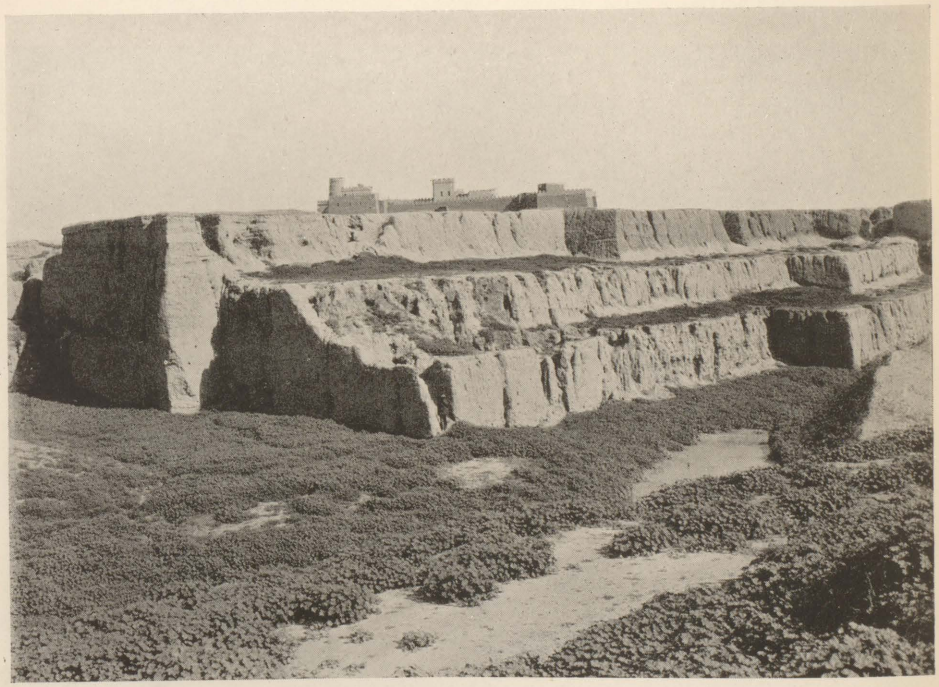


Scale *c.* $\frac{1}{2}$

49. HEADS OF MARBLE STATUES FROM SHAMĪ SHRINE, SEEN AT MĀLAMĪR



50. AREA OF SHAMĪ SHRINE IN COURSE OF EXCAVATION



51. EXCAVATED AREA, SITE OF SUSA, WITH CHÂTEAU DE SUSE IN BACKGROUND

Find place of ancient burial deposits (Susa I) near corner of trench on left

examination of the objects both at the Hākim's house and at my camp had attracted local attention and probably raised exaggerated notions as to their monetary value. So it seemed advisable to proceed to Shamī, their find place, with as little delay as other considerations would permit in order to prevent its disturbance.

Nevertheless I could not forgo devoting two days to a trial excavation at a small nameless mound situated about 1 mile to the south-east of the central village, where the presence of a few fragments of painted pottery on the very surface suggested prehistoric occupation. The mound rises about 12 feet above the level of adjacent fields and measures about 200 yards across. A trench carried across the top of the mound for a length of about 40 feet and cut down to a depth of 9 feet yielded from the start a considerable number of ceramic fragments with a great variety of patterns as shown by the specimens reproduced in Pls. II, III. The fabric is mostly buff, the colour of the patterns always in monochrome varying from grey to black and red-brown. Among the motifs of special interest are zones of grotesque standing or flying birds (14, 16, Pl. II; 3, 7, 8, 16, III), horned beasts (4, 5, 9, Pl. III) suggestive of mountain sheep. Highly stylized representations of human figures are seen in 1, 2, Pl. II. A rhinoceros-like animal appears in spaces of a lozenge-shaped design (2, Pl. III). The mass of painted potsherds shows a great variety of geometrical patterns, such as 'basket' hatching (6, Pl. II), 'interrupted basket' hatching (17, Pl. II), 'spicate' hatching (12, Pl. II), bold stepped lozenges (19, Pl. II), radiating lattice bands (20, Pl. II), solid disks and ladders (10, Pl. III), circle and dot (13, Pl. II). In the lowest

layers pieces of finer fabrics with more neatly drawn patterns were found with increasing frequency. There at a depth of 9 feet was found the terracotta figurine of a woman (14, Pl. III), truncated at the waist as is always the case with those hundreds of figurines of the 'mother goddess' found by me at chalcolithic sites of British Balūchistān and Makrān. Bands of paint encircle the waist and what is left of the arms, and braces cross the back. Chips of worked flints were found throughout, though not in large numbers. Considering the vicinity of Khūzistān, the general similarity of the decorative designs to the pottery of Susa I and Susa II cannot cause surprise.

From the surface of a small mound known as Tul-i-Bāwa Muḥammad from the owner of the neighbouring fields, the Surveyor brought a number of fragments of finely painted ware similar in character (11, 15, 20, Pl. III). Against expectation, no old coins were brought for sale during my stay at Mālamīr. But a small intaglio (9, Pl. XIX), showing a Greek warrior walking with a spear carried in the right hand and an object resting on the left shoulder, was acquired.

On January 24th I set out north-westwards for Shamī. The route chosen made a detour at first to avoid the boggy ground surrounding the shores of the Shat lake. If it were possible to drain this, no doubt a great deal of land could be recovered for cultivation. This may account for the local tradition related to me by Nā'ib Dīn 'Alī of a tunnel having in ancient times served to drain the lake towards the village of Pīyūn. When subsequently on my way I crossed the saddle which separates the Mālamīr basin from Pīyūn I found no indication of such a drainage

work and ascertained the watershed to lie fully 200 feet above the level of Mālamīr village. On striking the foot of the range overlooking the basin from the north, I visited the small hamlet of Hung-Naurōzī and the rock sculpture carved on a detached rock at the mouth of a small valley above it. As this has been described by Sir Henry Layard and others,[8] it will suffice here to state that the style in which the mounted royal personage on the left and the four standing figures facing it are shown in the relief panel distinctly resembles that of the representation of the king and his court in the main rock carving at Tang-i-Sarwak.

Beyond the range which we skirted on the way from Hung-Naurōzī to our camp at Pīyūn lies the valley of the Kārūn river, here widening into a broad and easily irrigated stretch of ground holding a group of small villages collectively known as Sūsan. Greatly exaggerated accounts heard about the remains to be found there combined with the local names had led Sir Henry Rawlinson, who had not been able to visit the place, to look here for the position of the biblical Shūshan.[9] Sir Henry Layard, who visited Sūsan in 1840, had by his brief but exact description disposed of its claim to any great antiquarian importance.[10] Nevertheless, finding myself at Pīyūn close to the point where the track to Sūsan branches off, I decided to visit it before proceeding to Shamī. There was a special induce-

[8] See Curzon, *Persia*, ii. p. 312, note 3, for references to earlier publications on the sculptures and inscriptions; also *Mission scientifique en Perse*, Mémoires, iii., pp. 133 sqq., Pls. 27–33.

[9] See *Journal of the Royal Geographical Society*, ix. pp. 83 sqq.

[10] See *ibid.* xii. p. 103 sq.; *Early Adventures*, i. p. 412, where also a striking account of Layard's risky journey down to the Kārūn valley is given.

ment for this in the opportunity it offered to get a view of the Kārūn river on its tortuous course through the mountains and to see at least one of the ancient paved roads known as *Jādah-i-Atā-bēg* in the Bakhtiārī country.

After leaving the track to Shamī and ascending the side valley of Kulāb, we came upon clear traces of an old road paved with large stone slabs and bordered by low walls of rough stones on the ascent to a steep rocky spur about 4½ miles from Pīyūn. It was intended to facilitate traffic over ground made distinctly trying by encumbering masses of fissured rock. It could be followed for some 6 miles farther, as far as the watershed reached at an elevation of some 3500 feet, except where, on the precipitous ascent from a deep and narrow ravine, it had almost completely crumbled away. Its careful alignment in serpentines was recognizable also on the extremely steep slope leading to the riverine terraces some 1600 feet lower down, even though the paving stones had here given way almost everywhere under the stress of the traffic of centuries. That this and similarly made bridle roads along and near the Kārūn valley dated from a time much earlier than that of the Atā-bēgs, who ruled in these hills down to the 14th century, has been recognized long ago ;[11] but no definite chronological evidence on the question has so far come to light.

The valley of the Kārūn where it holds the scattered hamlets of Sūsan presents an attractive picture, curiously recalling to me Upper Swāt. The largest of Persia's rivers passes here for some 6 miles measured in a straight line through a trough which a series of alluvial terraces prove to

[11] See Rawlinson, *J.R.G.S.*, ix. p. 83 ; Layard, *Early Adventures*, i. p. 423.

have been a lake-bed at a former geological period. Those terraces receive water from a number of springs, and their soil being thus easily irrigated is very fertile. We halted at Mehernān, the principal hamlet, situated on the left bank above rice-fields. The total absence of trees even on such well-watered ground was in keeping with the semi-nomadic life led here, as throughout the Bakhtiārī valleys, until the last few years.

The remains of old settlements are all to be found on the right bank. They are extensive but throughout consist only of shapeless heaps of stones from completely decayed dwellings. They stretch for close on a mile up the river from the point where we crossed it on a skin raft, and occupy a succession of terraces above the steeply eroded high bank. Close to the western end of the site a large detached rock lying among fields contains two tomb cavities, each with a neatly cut opening, measuring about 2 feet by 1½ feet and showing grooves for a closing slab. They are undoubtedly pre-Muhammadan. Above this site, about one-third of a mile across where widest, rises a very steep rocky spur in the shape of an amphitheatre. It was said to bear on its crest stretches of a continuous stone wall. Farther to the east, where a precipitous spur projects into the river-bed and causes a sharp bend, a steep path surmounts it, partly cut into the rock and partly built up with massive masonry. Here and at other troublesome places where the ancient causeway is carried past steep clefts in the lime-stone cliffs farther on, the large slabs used for a pavement are worn down to a perfectly smooth surface, suggesting great age.

Finally, some 4 miles beyond the river crossing, the

track led across a high terrace and beyond a deep torrent-bed to the point where the Kārūn is confined between wall-like cliffs some 50 yards apart. Here are found remains of a bridge which once spanned the bed with a single arch. Of the pier which carried this arch on the right bank there survives the base forming an irregular oblong adapted to the shape of the rock on which it is built. The base of the pier is faced with six courses of large roughly dressed blocks. Above this only a cemented mass of uncut stones and rubble is to be seen, the facing having completely disappeared. Two ruined piers, which once carried arches of approach on the right bank, show a similar construction. The regular courses of small square blocks which are the usual facing in piers of bridges dating from Islamic times were not to be found there. On the left bank the main arch must have rested on the cliff, which there rises to some 40 feet above the level of the water as noted at the time. No remains of masonry were to be seen on it.

The advantage offered for a bridge by the position was curiously illustrated by a double wire-rope stretched across the river-bed just where the ruin of the ancient bridge is found. This modern contrivance is used for transporting men or sheep across by means of a bag hung between the two wire-ropes. It may have had its ancient counterpart in the rope-bridge which, as noted before, is likely to have served as the earliest means of communication across the river at Tang-i-Brīn.[12] Above the ruined bridge the Kārūn flows in a narrow ravine, and it was declared that for some distance it is inaccessible from the banks. The old bridge was probably meant to serve traffic on the more

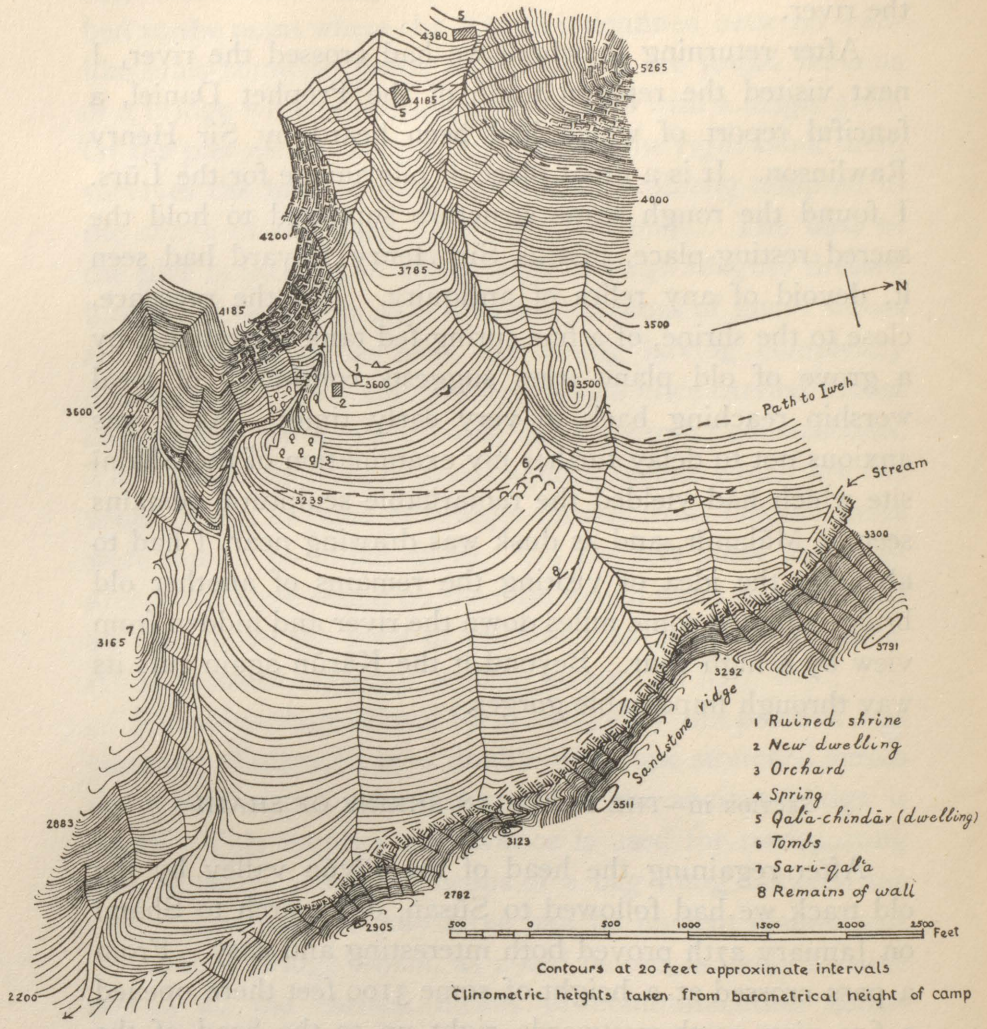
[12] See above p. 51.

direct route to Mālamīr crossing the range due south of the river.

After returning to where we had crossed the river, I next visited the reputed tomb of the Prophet Daniel, a fanciful report of which had been heard by Sir Henry Rawlinson. It is a great place of pilgrimage for the Lūrs. I found the rough stone structure supposed to hold the sacred resting-place, just as Sir Henry Layard had seen it, devoid of any relics of antiquity. But the presence, close to the shrine, of a fine spring-fed tank surrounded by a grove of old plane trees suggests continuity of local worship reaching back to very early times. As I was anxious not to delay further my examination of the Shamī site which had yielded the remarkable sculptural remains seen at Mālamīr, and as dusk was drawing near, I had to abandon the idea of visiting the remains of another old bridge situated some miles down the river and hidden from view by a high spur. Beyond it the Kārūn again cuts its way through impassable gorges.

Section iii—THE PARTHIAN SHRINE OF SHAMĪ

After regaining the head of the Pīyūn valley by the old track we had followed to Sūsan, our march to Shamī on January 27th proved both interesting and easy. From a pass crossed at a height of some 3100 feet there opened a fine view north-westwards, right up to the head of the valley known by the general name of Shamī. The valley is narrow farther down, where its drainage has cut its way through a gorge westwards to the Kārūn, but opens out at its head to a series of terraces overlooked on the north-



10. PLAN OF SHAMĪ SITE, MĀLAMĪR

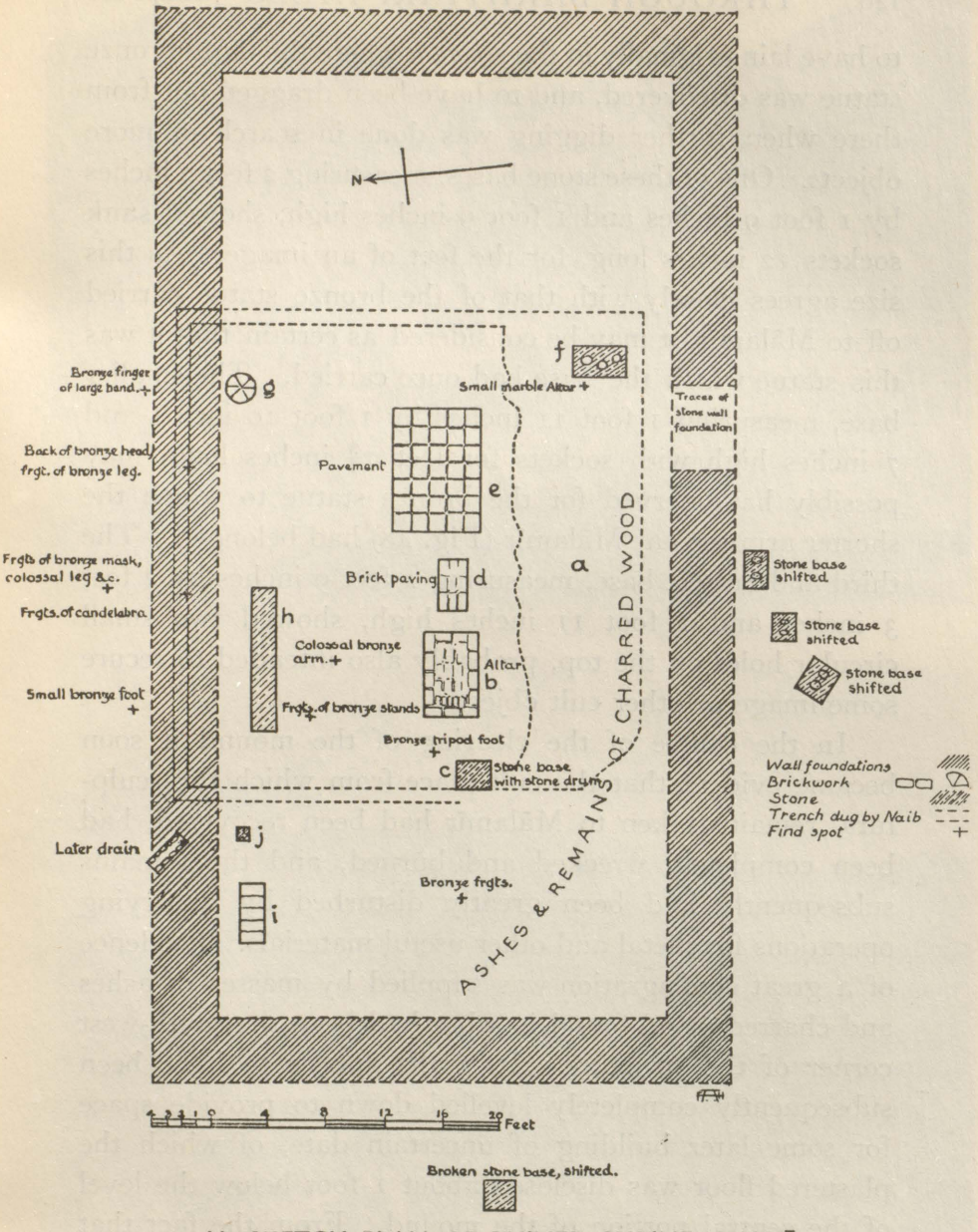
west by a rugged peak rising to over 4900 feet and on the north-east by a lower sandstone ridge, precipitous and much fissured by erosion (see Plan 10). Lively rivulets fed by springs gather in ravines dividing successive terraces and render them capable of cultivation. Between these a well-marked path led up to a gently sloping small plateau, where below a spring are found a little grove of pomegranates and a couple of huts recently built by Lūrs. Until quite recently semi-nomadic, they had under administrative orders been obliged to settle down into permanent occupation of this ground. A few more newly built dwellings were to be seen about 600 feet higher up, at the very foot of the rugged height dominating the valley on the north-west, at the head of the ravine from which the spring just mentioned gathers its water.

Remains of decayed walls built with large undressed stones and meant to support cultivation terraces were to be seen all over the gently sloping ground overgrown with scrub, and here and there were myrtle bushes. On a somewhat larger terrace just above the couple of half-underground huts referred to, at an elevation of 3300 feet,[1] I was readily shown the spot where some six months before the large bronze statue and the other smaller sculptures seen at the Nā'ib's house at Mālamīr had been discovered (Fig. 50). The find place was clearly marked by a narrow rectangular trench which had been dug down to a depth

[1] This elevation of 3300 feet was determined by the Geodetic Office of the Survey of India at Dehra Dun on the final computation of the closely concordant observations taken at our camp with hypsometer and four aneroids. The preliminary height record deduced from these observations while on the spot was 3600 feet, and this served as the datum level for the clinometrical readings to surrounding points shown in Plan 10.

of less than 3 feet for the purpose of laying foundations for the walls of a dwelling about 20 by 30 feet. To the south this trench had been widened by about 8 feet when the Nā'ib, promptly arriving after the first discovery, had the place where the large bronze statue had been brought to light under only a few feet of earth searched and the other objects then found transported to Mālamīr. Since then the spot was declared to have been left undisturbed under the Nā'ib's strict orders. Close inspection made while our tents were being pitched on smaller terraces close to the north, led to the gratifying belief that this order of the district administrator known for his severe methods had been respected. But, of course, it was difficult to judge on arrival whether some additional search had not been carried on after the first discovery and before that order was given.

The week's stay at the site, excepting a day of continuous rain, was fully taken up with the careful clearing of the area once occupied by the ruined shrine and with the search for other vestiges of ancient occupation traceable in its neighbourhood. Fortunately it became possible with the help of the local headman, whose house building had led to the first discovery at the site, to collect adequate and fairly intelligent labour from the 'Yailaks' scattered in the neighbouring hills. Systematic clearing of the low mound, rising to close on 5 feet above the natural soil near its centre where the first digging of a square trench had been done, was started from the north side and carried right across to the south. Three stone bases found lying there on the surface beyond the foot of the mound (see Plan 11) were declared by the local headman and others



11. SKETCH PLAN OF RUINED SHRINE, SHAMĪ

to have lain originally in the space *a* where the large bronze statue was discovered, and to have been dragged out from there when further digging was done in search of more objects. One of these stone bases, measuring 2 feet 2 inches by 1 foot 9 inches and 1 foot 9 inches high, showed sunk sockets 12 inches long, for the feet of an image. As this size agrees closely with that of the bronze statue carried off to Mālamīr, it may be considered as certain that it was this statue which the base had once carried. The smaller base, measuring 1 foot 11 inches by 1 foot 10 inches and 7 inches high with sockets for feet $7\frac{3}{4}$ inches long, may possibly have served for the bronze statue to which the shorter arm seen at Mālamīr (Fig. 48) had belonged. The third and largest base, measuring 2 feet 9 inches by 2 feet 3 inches and 1 foot 11 inches high, showed two small circular holes on the top, probably also intended to secure some image or other cult object.

In the course of the clearing of the mound it soon became evident that the cult place from which the sculptural remains taken to Mālamīr had been recovered, had been completely wrecked and burned, and the remains subsequently had been greatly disturbed by quarrying operations for metal and other useful materials. Evidence of a great conflagration was supplied by masses of ashes and charred wood found in what had been the south-west corner of the structure. Its walls appear to have been subsequently completely levelled down to provide space for some later building of uncertain date, of which the plastered floor was disclosed about 1 foot below the level of the central portion of the mound. From the fact that no remains of masonry, whether of stone or burnt brick,



52. REMAINS OF SHAMĪ SHRINE, SEEN FROM NORTH-EAST



53. CENTRAL AREA OF SHAMĪ SHRINE, AFTER EXCAVATION,
SEEN FROM SOUTH-WEST



54. NORTH-EAST SIDE OF TERRACE, MASJID-I-SULAIMĀN



55. RUINED TERRACE, MASJID-I-SULAIMĀN, SOUTH-EASTERN CORNER

indicating the position of walls were traced in the course of clearing I am led to conclude that the walls enclosing the shrine were built of sun-dried bricks. Fortunately the clearing in the end revealed lines of rough flat stones which had served for the foundations of these walls; and this made it possible to determine the dimensions of the shrine. Its enclosing walls, about 4 feet 6 inches thick, formed an approximately orientated rectangle measuring outside 75 feet from east to west and 40 feet north to south. Where the entrance had lain it was impossible to ascertain.

Among structural remains within the enclosed area the most interesting and best preserved is a small platform built with hard bricks (*b* in Plan 11) and still standing to a height of close on 3 feet as seen in Fig. 53. This had obviously served as an altar. It measures 5 feet 8 inches in length and 3 feet 10 inches in width. The bricks laid in horizontal courses are 1 foot 2 inches square and 2 inches thick. Curiously enough the west face shows in the centre bricks 1 foot 2 inches long and 6 inches wide set upright on their edges and leaving interstices which seem to connect with two narrow passages left in the horizontal brick courses below. To the west of the altar was found a stone base, 1 foot 11 inches square, showing a recessed edge like all the other image bases, raised on a brick platform, *c.* 2 feet 4 inches by 2 feet (Fig. 53). On the top of the stone base lay a stone drum 1 foot 6 inches in diameter and 11 inches high. As the drum projected on one side about 2 inches beyond the edge of the stone base it is not likely that this was its original position. The drum had an annular band round its upper edge. To the east where

it has suffered more damage, the altar is adjoined by a brick flooring, *d*, 3 feet 6 inches long and 2 feet wide.

On it lay upheaved a square image base with two holes. Beyond this again to the east stretched a pavement, *e*, laid with large square bricks and measuring 8 feet 6 inches by 6 feet. To the south-east of this the Nā'ib's digging had exposed a large stone base, *f*, measuring 3 feet 6 inches by 2 feet and 8 inches thick, placed over a stone flooring. On its upper surface were three holes from $2\frac{1}{2}$ to 3 inches in diameter, two of them retaining bronze pegs for small statues. In front of this image base lay the neatly designed small stone altar shown in 21, Pl. XXVII and described below.

To the north of the large pavement there turned up together, close to what proved the foundations of the northern enclosing wall, six triangular brick segments, *g*, each having two straight sides 13 inches long and a rounded base of similar length. Fitted together they formed a circle approximately 2 feet 2 inches in diameter, which perhaps had served as a base for a wooden pillar. Following along the line of the same northern wall there was found a low roughly built stone platform, *h*, much broken, and of uncertain use. Farther west by the same wall there came to light a small platform, *i*, about 4 feet long, the surface of which was formed by five bricks measuring 20 inches by 10 inches and $3\frac{1}{2}$ inches thick laid side by side. It was raised by means of a thick layer of hard plaster above a stone flooring. There was nothing to indicate its purpose, but it occurred to me later that on it might possibly have rested the large stone base, perhaps meant for a colossal image, which was found lying some

30 feet beyond the west wall, purposely broken into two pieces each about 1 foot 11 inches square. Search for some specially valuable votive deposit within the stone might have prompted the breaking. It remains to be mentioned that the coarsely carved fragment of a stone pillar and a drain, *j*, between rough stones, marked in the plan near the last-mentioned platform, were found on a higher level, just like the plaster floor of a later structure previously mentioned.

Before I proceed to describe the objects recovered from the debris which throw light on the character of the ruined building and invest it with special interest, I may note some observations on its structural features as revealed by the clearing. There were no definite indications as to the way in which the large temple cella—for this undoubtedly it was—had been roofed. That whatever roofing there was had been constructed of timber may be safely concluded from the nature of the walls and the absence within of such debris as vaulting with stone or brick would have left behind. The fact that a thick layer of ashes and charred wood was found within the line of walls in the south-west corner and burned earth elsewhere, mainly in proximity of the walls, has suggested to me that the cult images of which the position is marked by stone bases had possibly stood under the protection of a wooden roof carried verandah-like inside and along the walls, while the central area of the cella was left open to the sky. Such an arrangement would have its parallel in the disposition of colonnades within Greek temples and also in the way in which the stucco sculptures lining the enclosing walls of the Rawak Stūpa, a great Buddhist sanctuary of Khotan,

were sheltered.[2] In support of such an assumption reference may be made also to the brick base of a column found near the north wall, as already mentioned.

In view of the abundant evidence as to the complete upheaval which the contents of the shrine had undergone during its sack and the subsequent quarrying, it would serve no useful purpose to describe the relics left behind by the plunderers with special reference to the places where they were recovered ; the approximate marking of these places in the plan will suffice. A principal mass of fragments from bronze statues was found thrown together in a large heap outside the middle of the north wall. The utter confusion of pieces belonging to different images clearly showed that it was the spot where a plunderer engaged in collecting and smashing objects for the sake of their metal had left behind a portion of his spoil. All the fragments show marks of the violent treatment to which the images had evidently been subjected by blows with a hammer or otherwise in order to secure pieces convenient for handling.

The most interesting perhaps of all the sculptural fragments recovered came from this heap in the shape of the two halves of a bronze mask slightly larger than life size (Pl. IV). It shows the beardless face of a youngish man with eyes below strongly projecting brows, and a mild but firm mouth. The hair in wavy locks is bound by a fillet and in front turned upwards. The modelling is good Hellenistic work, as can be seen in spite of the distortion which both pieces have suffered from violent blows. The reproduction in Pl. IV shows both halves of

[2] See Stein, *Ancient Khotan*, i. p. 488.

the face. Sir George Hill, who examined the mask, has very kindly drawn my attention to the important fact of the hair showing the *ἀναστολή*, which is characteristic of Alexander the Great in classical portraiture. Whether expert opinion can arrive at some definite conclusion as to the dating of the sculpture, in spite of the damage it has suffered, is still doubtful. The distortion renders the exact fitting of the two halves impossible and hence also a correct restoration of the profile. So much, however, may be accepted as probable, that the statue represented a royal personage, whether Alexander the Great, whose worship prevailed for a considerable period throughout the Hellenized East, or else a Seleucid monarch. Its presence in the ruined shrine throws significant light on the cult to which it was devoted.

Quite close to the heap from which this mask was recovered was found the bronze fragment showing what in all probability is part of the top and back of the same head (1, Pl. V). The hair is less carefully modelled than the part above the forehead in the mask. From the same heap of bronze fragments came the colossal left hand (4, Pl. V), 10¾ inches long, shown with fingers in the position of grasping the shaft of a spear or staff. The pose suggests that the hand possibly belonged to a representation of Zeus, as shown on the coins of the Seleucid dynasty. The bronze right hand (5, Pl. V) is slightly over life size, and shows good modelling. Of two castings of lower parts of human legs from below the knee to above the ankle (6, Pl. V) it is difficult to determine to what size of statue, probably colossal, they belonged. The bronze fragment (3, Pl. V) shows the sleeve of a coat from a colossal arm, slightly

bent at the elbow. The sleeve is horizontally wrinkled except at the broad cuff, which is surface-marked to indicate a different material. Near by was found a large fragment of a bronze sheet with extra pieces of sheet riveted on to it, shaped as if meant to represent part of a garment but difficult to interpret. The purpose of the circular bronze plate (2, Pl. V) with two suspension loops on the edge is not yet determined.

Among numerous other bronze fragments the small representation of a panther's pelt (14, Pl. VI) claims special interest. The skin, etched to suggest fur and marked with spot depressions, once apparently inlaid, hangs in characteristic folds, with the head downwards and the forelegs drooping beside it. The design, as was kindly pointed to me by Mr R. P. Hinks, of the Greek and Roman Department of the British Museum, is distinctly reminiscent of the panther skin shown hanging over the seat of Dionysus figures in Greek sculpture. The pelt, measuring $4\frac{1}{2}$ inches in height, may well have been attached to a small statue of the god once sharing the divine company receiving worship at the shrine. From a small bronze figure of Iranian type, perhaps a deified royal personage, comes the carefully modelled left foot and ankle (16, Pl. VI) covered with a loose-fitting sock or moccasin. The foot rests on a sandal with upturned pointed toe, closely resembling the footgear on the small bronze figure seen in Fig. 48. To the sole is attached a quantity of red lead (?) which obviously served to fix the figure more securely in its socket on a base.

Two bronze objects belonging to the furniture of the shrine are of interest. Of a lamp standard or ceremonial

brazier for incense (13, 15, Pl. VI) made of very thin bronze, numerous fragments were unearthed not far from the altar. The principal types of sections might be conjecturally combined into a baluster-like stand about 20 inches in height. From the circular base of such a standard might have come other numerous fragments of thin bronze with annular ribs, and backed with lead solder (?). Some of these show traces of gilding. Interesting also is the well-modelled 'eagle's foot', resting on a double disk (11, Pl. VI) and probably part of a tripod. It is of distinctly Graeco-Roman type, and is cast in bronze on an iron core which curves upwards to form a leg.

Among miscellaneous objects may be noted two iron daggers (3, 6, Pl. VI); two large iron studs with mushroom heads covered with silver sheet (1, 9, Pl. VI); a slender silver pin (2, Pl. VI); a large silver 'drop' ring or clasp with floral decoration in relief, in the form of a Hellenistic festoon (see drawing below); fragments of mother-of-



pearl showing engraved floral ornamentation, and several small rings of silver, bronze (5, 10, Pl. VI) and iron.

Other objects shown in Pl. VI are: an iron loop, perhaps a handle with long shank for attachment (7); an iron object which may have formed part of a door hinge (12); a fragment of bronze sheet, embossed with the typical Assyrian 'daisy' flower, repeated (17); a three-limbed object made of thin copper sheet with remains of rivets at the extremities of the limbs, probably part of an ornamental attachment (4); a round-headed bronze nail (8).

Chronological interest attaches to an uncertain Greek city coin of Mesopotamia, dated by Mr. J. Allan from the 1st century B.C., and a silver coin showing the head of Alexander on the obverse and a seated Zeus on the reverse, which the same authority ascribes to Southern Asia Minor from 200 to 150 B.C. This latter coin, though declared by one of the diggers to have been found while at work at the ruin, may well have been picked up elsewhere at the site. Of two strips of gold foil, one was found on one of the bricks forming perhaps the base of a pillar, as mentioned above. The miniature altar of limestone (21, Pl. XXVII), with its square, moulded base, circular torus moulding, shaft, capital and abacus, conforms closely to Greek models.

The complete clearing of the ruined shrine had shown only too plainly how thorough its first sack must have been, and how destructive the subsequent plundering. The fragments of sculptures recovered by our excavation could not, when taken piece by piece, equal in interest the remains of statues which a lucky chance had allowed to survive in a small portion of the ruin and to be brought to light by accident. But as a result of the careful clearing it has

become possible to recognize the full significance of those first finds and to establish the true character of the site which had yielded them. It has proved a shrine where local worship, continued into Parthian times, had in a syncretistic fashion common to the Near East combined Hellenistic cult of Greek divinities with the worship of deified royal personages, perhaps from Alexander the Great down to Iranian chiefs for us nameless.

The seven stone bases found *in situ*, or where searchers of the ruin had moved them close by, provided positions for at least a dozen images, large or small. Counting the sculptures removed to Mālamīr and the fragments excavated at the ruin that can be definitely recognized as belonging to different figures, we have the remains of ten or eleven statues, varying from colossal to miniature size. Among those which can be claimed as Hellenistic we have Alexander or a Seleucid ruler (?), Aphrodite, Dionysus and probably the colossal figure of a Zeus or other Olympian. Four others, including the great bronze statue seen by me at Mālamīr, undoubtedly represent Iranians. The three objects for which cult use is either certain or probable, the miniature altar, incense burner and tripod foot, are unmistakably Graeco-Roman in type.

Turning to the question as to the time when the shrine was still in being, the only definite indication afforded is that of the small copper coin of some Greek city in Mesopotamia which has been dated as from the 1st century B.C. Taking into account the type of the Alexander or Seleucid head and a certain resemblance in the style of the Iranian heads to Graeco-Buddhist sculpture, I should

find it difficult to date the destruction of the cult place much earlier than the 1st century A.D. But it must be borne in mind that the collection of the statues ultimately found together in the cella may well have extended over a considerable span of time.

Our knowledge of the ethnic conditions prevailing in these parts during a rather dark period of Iranian history seems too slight to permit any useful suggestion to be made as to the people whose cult was served by the shrine. That the influence of Hellenistic culture in Īrān after Alexander's conquest was a lasting one we know. From Greek cities of importance in Khūzistān, such as Susa was during Parthian times, this influence must have spread far into the mountains. But all the same it remains a puzzling question as to how a locality so restricted in space and resources, as this outlying valley of Shamī is, could afford a temple so amply provided with artistic objects of worship.

It seems hard to assume that objects of such size and weight as the colossal bronze statue, of which we recovered fragments of arms and legs, and the solidly cast hand, could have been brought from any great distance to a place surrounded by rugged mountains. On the other hand, if it was cast here it presupposes advanced cultural and economic conditions such as we should scarcely be led to assume for such a locality. Or was Shamī perhaps a kind of 'hill station' to which Philhellen Parthian rulers of Mālamīr would retire for the summer to escape the heat of their seat in that fertile but malaria-ridden valley? These and other questions raised by the finds which the Shamī shrine has yielded may perhaps never be answered,

even after a thorough exploration of other remains in the vicinity may have become possible.

Busy as I was kept in directing the systematic excavation and recording of the finds, I spared time to inspect what other traces of ancient occupation I could learn of. About 200 yards to the north of the shrine I was shown a spot on a cultivation terrace where many large burnt bricks had been dug up. Among them were oblongs similar to those used in the pavement, *d*, of the shrine and a number of triangular brick segments which when put together formed a circular drum 1 foot 11 inches in diameter, not unlike the slightly larger one found at *e* on the floor of the shrine. All the bricks showed a thickness of 3 to 3½ inches. Brick debris was to be seen also where some pits had been dug about 300 yards to the north-east of our camp. In the same direction some 500 yards farther and on a level about 200 feet lower, a wall built with cyclopean blocks of stone could be traced for a distance about 80 yards below a cultivation terrace. It stood to a height of about 5 to 6 feet and showed an average thickness of 4½ feet. After a break of some 50 yards across a drainage bed it was traceable again along the contour of the slope for some 30 yards, to reappear once more about 320 yards beyond, across a shallow nullah.[3] These sections of a wall found just where the ground falls off more steeply to the deep-cut bed of a stream faced by a precipitous sandstone ridge seemed to occupy a line well suited for defence.

Close below the track which crosses the cultivable

[3] The position of the spots with brick debris and of the wall portions has been marked only approximately in Plan 10, as I was unable to accompany the Surveyor and indicate the exact positions when he did his plane-tabling.

portion of the site below the ruined shrine, and leads in a northerly direction towards the village of Īweh and the Kārūn, there are found a number of tombs. They are uniformly constructed with walls of undressed stones to a height of about 3 feet and roofed over with long slabs set at an angle of about 45° which meet at their long edges. These tombs seemed to have usually measured 10 feet by 8 feet. Most of those recognizable appeared to have been opened and searched. The digging was said to have been carried out some sixteen years before by order of a late Bakhtiārī chief who was acting at the time as ' Sirdār-i-jang ', or Minister of War, at Tehrān. I could obtain no information as to the objects found. But the number of opened tombs—more than a dozen—suggested that articles of value had been found. Three tombs, the entrances of which were much encumbered with stones and hence thought undisturbed, were cleared, but found empty ; they may have been searched long before.

The results of a week's strenuous work at this interesting site made me feel doubly sorry for the reason which induced me to leave Shamī on February 4th. It was directly connected with the disturbing message from Tehrān which, as mentioned before, had met me on arrival at Mālamīr. It indicated that objection was likely to be taken in high quarters to that survey work along our routes which had been carried on so far with full official cognizance, and which I considered essential for my task. I had found it necessary to bring the threatening difficulty to the notice of H.M.'s Legation at Tehrān through the British Consul at Ahwāz, and a message from the latter, now transmitted to me at Shamī, indicated that early

contact on my part with the provincial authorities at Ahwāz was considered essential to assure free progress with my task. In these circumstances I had reason to feel specially grateful for finding myself now within comparatively easy reach of the Anglo-Iranian Oil Company's oilfields and of all the facilities which I was encouraged to hope for there.

The three marches which brought me from Shamī over a distance of some 50 miles to the vicinity of Masjid-i-Sulaimān, the famous oilfields, do not call for a detailed record here. The route led over ground shown for the most part as unsurveyed in the latest then available map. It is broken by a succession of picturesque sandstone ridges separated by valleys which, though mostly narrow, yet send a comparatively ample drainage down towards the Kārūn.

In spite of the facilities for cultivation which this surface drainage provides, there was but little of permanent settlement to be seen and nothing of old remains. But if there were no ruins to be examined *en route*, yet it was of quasi-historical interest to observe at the hamlets of Marghāb and Tashēkar, where we pitched camp, how the influence of industrialization radiating from the oilfields was affecting local habitations. Helped by the wages there earned, the inhabitants of those hamlets had not let many years pass before replacing their traditional reed huts and mud houses by dwellings solidly built with stone and boasting even of windows and domed roofs. After all the signs of primitive life witnessed elsewhere in the Bakhtiārī hills it was a striking illustration of that quick receptiveness which seems to have been an inherent quality of most Iranian people all through history.

SECTION IV—TO THE OILFIELDS, AHWĀZ AND SUSA

At Masjid-i-Sulaimān, the headquarters of the great oilfields of the Anglo-Iranian Oil Company, the kindest welcome awaited me. After all the exposure from bitter winds and rainstorms undergone during our stay at Shamī, the comfort offered by the kind hospitality of Mr. C. R. Clark, the Fields Manager, was bound to be duly appreciated. But apart from this comfort and the advantage of telephonic communication with Ahwāz, my two days' stay at Masjid-i-Sulaimān proved delightfully helpful and instructive. Much-needed repairs to tents and equipment were effected by trained hands at one of the Company's workshops with such speed and skill as could not be looked for anywhere else in the land. And in addition to much interesting information as to the history of the vast efforts which the building up and maintenance of this huge enterprise have implied, I was enabled to gather some archaeological information of interest.

On Friday 7th, the day following my arrival, Mr. H. S. Gibson, Assistant Fields Manager of the oilfields, was kind enough to use the weekly (Muhammadan) holiday for taking me to the old site of Bard-i-nishāndeh, some 13 miles out to the north, on the road which leads across gypsum hills and plateaus to the pumping station of Dulāb on the Kārūn. Thence comes the only drinkable water supply for the large population of the oilfields. On the way I noticed a *band* or stone-built barrage, evidently old, constructed across a small nullah in order to collect alluvial deposits above it with a view to providing cultivable land.

At Bard-i-nishāndeh an isolated hillock bears on its

top a circumvallation of roughly built stone walls, about 150 yards in diameter. The east face, where a rocky ridge offers easier access to the top, appears to have been protected by strong bastions. In the centre a small debris mound with traces of a tank at its foot may possibly mark the position of some shrine. On the steep western side, stairs, flanked by massive walls built with large slabs, lead up to what seems to have been a gate. An outer enclosure can be traced surrounding the hillock at its foot. In a field near by Mr. Gibson had picked up, exposed on the surface and much battered, the sculptured head of a limestone image. It showed Hellenistic influence, and looked as if dating from Parthian times. Another smaller hillock a short distance off to the south bears the remains of a fortified mansion, perhaps of Sasanian times, protected by a ravelin.

A site of far greater interest and importance is the large ruin of Masjid-i-Sulaimān, 'the Mosque of Solomon', from which the oilfields take their name. I was able to pay it only two brief visits. The ruins consist of a huge walled-up terrace some 440 feet long from east to west and about as broad across where widest on the eastern side. It is built against the eastern slope of a rocky hillock and provides a wide level space below the top, which rises a little over 100 feet above it. The terrace walls, best preserved near the north-east corner (see Fig. 54), are built of large roughly dressed blocks of freestone, smaller flat stones being inserted between them, thus presenting a semblance of courses. Bastioned projections, including two very large ones, face the northern side, probably to give strength to it. Similar projections may have stood on the eastern and southern sides, where the supporting walls have mostly decayed into mere

heaps of debris covering the slopes. A very striking feature is the great staircase, 81 feet wide, leading up to a height of close on 30 feet near the north-east corner (Fig. 55). Of four smaller staircases, the one situated on the northern side between the two largest 'bastions' is the best preserved. One of these shows a kind of 'blind window'. Below the other can be seen a narrow sunk passage leading to an entrance now blocked by stones which seems to have given access to the substructure.

Muhammadan graves cover much of the southern portion of the terrace, and near the eastern edge of this extensive graveyard rises the ruin of a Muhammadan tomb probably of medieval age, with concrete walls and once domed. The proof of continuity of local sanctity thus afforded makes it clear that the imposing structure was meant to serve as a place of worship. As the presence of naphtha springs with gas escaping and feeding jets of fire has always been known in the close vicinity of Masjid-i-Sulaimān, it seems safe to assume that the site served Zoroastrian worship[1] in connexion with pilgrimages to the sacred fire thus produced, 'self-created' as the traditional Sanskrit term (*svayaṁbhū*) of Kashmir would have it.

Arsacidan coins are picked up in great numbers on and around the terrace after rainfall, which proves that it was visited as a place of pilgrimage already in Parthian times.[2] To these its construction may also be ascribed

[1] Professor Herzfeld hints at a similar conclusion, *Archaeological History of Iran*, p. 93, where construction in Arsacidan times is also suggested.

[2] Among the copper coins acquired by me at the site four have been identified by Mr. J. Allan as struck under Orodes II (late 1st century B.C.) in Elymais; one belongs to Ardashīr I (A.D. 224–41); one to Shāpūr II (A.D. 310–79).

with much probability. Sasanian coins are also frequently found. I was unable to trace remains of any building which the terrace might have originally carried. But certain it is that the construction of the latter implied resources far beyond those of the scanty population which these barren gypsum hills could ever have maintained before the exploitation of the oil hidden below them brought there all the resources of a vast industrial enterprise along with many thousands of people.

I left Masjid-i-Sulaimān deeply impressed with all that engineering skill and power of organization had by systematic planning and persevering efforts succeeded in creating there, in the face of exceptional difficulties both physical and otherwise. The same friendly attention and kind help facilitated also my progress to Ahwāz. The unmetalled road leading from the foot of the hills along the Kārūn to Ahwāz had become impassable for cars after the recent rains. Fortunately weather conditions could not affect the road leading down to Dar-khazīneh, the point up to which steamers ply on the river. So when on the morning of February 9th I took leave from my kind host, easy progress to Ahwāz by road and river was assured to me. While M. Karīmī shared my company, Surveyor Muḥammad Ayūb was instructed to move our camp to Dizful at the head of the Khūzistān plain, where I could conveniently rejoin it from Ahwāz.

I enjoyed a pleasant and restful journey of nine hours, first down the Āb-i-gargar branch and then the main Kārūn. The small stern-wheel steamer *Shūshan* was the same which had brought Lord Curzon to Ahwāz in 1889. This veteran vessel was believed to have before plied for some years on

the Nile.[3] From Mr. A. E. Watkinson, H.M.'s Acting Consul at Ahwāz, I received the kindest welcome, and the visits paid from his hospitable roof to Sartīp Mo'inī, the General Officer Commanding in Khūzistān and Lūristān, and to the Governor-General of the Province, soon assured me that the question raised from Tehrān about our 'mapping' was not to interfere with the generous support sanctioned by the Iranian Government for my explorations, as previously communicated by its circular order to all provincial authorities.

Sartīp Mo'inī, a very alert and enlightened officer with long experience in this region, received me with unfeigned warmth and showed a very helpful interest in my programme. It was mainly under his command that the various nomadic tribes of Lūristān, long accustomed to indulge in feuds, rebellions and predatory exploits, had gradually been brought to heel, not without a good deal of fighting. He readily approved of my programme of travel along the Saimareh valley and in other parts of Lūristān-Kūchik, and straightway issued orders for a fresh gendarmerie escort to relieve the one brought with me through the Kohgalu and Bakhtiārī hills. I was furnished also with letters specially recommending me to the good offices of the several military administrators holding charge of different sections in the tribal area. I shall always remember Sartīp Mo'inī's ready and effective help with sincere gratitude.

Ahwāz, though an old place and in its modern aspects

[3] See Curzon, *Persia*, ii. p. 334, where the construction of the 'Shushan' with some other small boats, as originally intended for the Nile expedition of 1884–5, is mentioned.

much improved by the recent arrival of the railway from the Gulf coast, had little of interest to offer. But a halt of three days was imposed by the necessity for making practical arrangements for the long journey ahead. With plentiful writing work on hand and the knowledge that prolonged rain would delay also the arrival of my camp at Dizful, it was easier to reconcile myself to it.

The next item on my programme was an eagerly desired visit to the great site of ancient Susa. The excavations started more than fifty years before by MM. Dieulafoy and de Morgan were being continued there, as for a number of years past, under the direction of M. le Comte de Mecquenem on behalf of the Louvre. Difficulty of communication owing to the road having been rendered impassable by rain induced me to proceed by rail to Sālihābād, then the terminus of the railway and within a day's march from Susa, before I could ascertain whether the French excavators had returned to Susa from another ancient site in the vicinity reported to be engaging their attention. Arriving on February 13th at Sālihābād I found hospitable shelter once again under the Anglo-Iranian Oil Company's rest-house, and felt all the more grateful for it as reunion with my camp was unexpectedly delayed.

The surveyor, ever a hard marcher, had, indeed, brought all our impedimenta to Dizful, only about 4 miles away, safely in five days, in spite of heavy rain and the wretched condition of the road. But the bridge across the swollen Kārūn was broken, and no safe crossing for the baggage and transport animals was practicable until repairs had been made to the only small ferry-boat avail-

able. It was rather a tax on my patience to wait at Sālihābād for three days until these difficulties of semi-civilization had been overcome. Fortunately on February 17th, by proceeding to Dizful in person, I was able to assure myself of the troublesome river crossing being safely accomplished.

On the same day I went on to Susa, whence a messenger had brought news that M. de Mecquenem was there to receive me. The flooded condition of the road would have made a move there with my camp impossible. So I blessed the newly built railway which allowed me to reach Shūsh station. Then an hour's tramp brought me to the 'Château de Suse', the picturesque fortified mansion of the French 'Délégation en Perse', crowning the huge mound of Susa. My eyes had been turned to the great site ever since in 1887, on my way out to India, I had been able in M. Dieulafoy's company to see at the Louvre the magnificent wall of faiences brought to light by him from the great palace of Xerxes.

The welcome I received from M. de Mecquenem was the kindest, and the guidance which he, one of M. de Morgan's old assistants, was good enough to afford me, made my stay at Susa very pleasant and instructive. Familiar with the famous site for fully thirty-three years, and with the varied important discoveries which had attended its exploration for more than half a century, he was able to invest all that was to be seen on the ground with far greater interest than it could have offered otherwise. For to tell the truth, Susa, in spite of the huge extent of the mounds which mark the capital of ancient Elymais, the Elam of the Bible, and their height rising in one part to fully 70 feet above the surrounding level plain, might

present no very impressive scene to the average visitor. Since practically no structural remains are now to be seen above ground, even the archaeologist's eye cannot easily trace signs of the five millennia or more of human history of which the debris layers of those mounds have yielded such a wealth of important relics.

The imposingly wide and deep trenches which have in numerous places been carried through the principal mounds have laid bare strata with remains extending from the earliest prehistoric civilization knowing the use of copper down to the Sasanian and early Muhammadan periods. Greek inscriptions have borne witness to the Hellenistic culture which had for centuries a home here, under Parthian domination. But of the structures brought to light by these extensive and systematic excavations of so many years there is little to be seen now on the ground but the colossal limestone bases of the columns which once supported the ceiling over Xerxes' great audience-hall, the cemented floors of rooms belonging to the Achaemenian palace and, in places, the high mud brick-walls supporting the great terrace on which buildings of the palace once stood.

Potsherds of all ages, of course, are to be seen in abundance on the ground where vegetation does not hide them. But even the trained eye cannot easily read their story ; so great is their mixed profusion. Apart from all architectural or sculptural remains which have found their way to the Louvre or, since 1928, also to Tehrān, all that could be of use of stone or other hard materials exposed on the surface has been, and is still being, carried off by the inhabitants of Shūsh and the neighbouring villages. It has no doubt been the same throughout the ages wherever

the site was not occupied at the time. Here, as at many important sites farther west, the thoroughness of the gradual destruction resulting from local exploitation would seem at first sight very strange.

Fortunately favoured by M. de Mecquenem's expert guidance, I could learn far more from my walks across the mounds and along the deep trenches cut through them than would have been possible even had I ever been able to devote adequate time to the study of the volumes of reports on Susa published at intervals by the 'Délégation en Perse'. Nor could I gather from those I had read as clear an idea of the conditions in which the famous discovery of that early prehistoric painted pottery known as 'Susa type I' was made, as when I was shown by my kindly guide the very spot, at a small cemetery of about 3000 B.C., where that fortunate find was made (Fig. 51). It had needed the removal of some 60 feet of earth and debris by the cutting of successive broad terraces to reach it.[4] The area from which those many hundreds of finely painted ceramic objects together with other interesting funerary remains were gathered looked but little larger than the space within which I had the good luck in 1932 at Khurāb to find plenty of closely corresponding painted

[4] In view of the discussions to which the relation between the painted ceramic of 'Susa I' and 'Susa II' has given rise (see Sir L. Woolley's article, *Journal of the Royal Asiatic Society*, 1928, pp. 35 sqq.), it may perhaps be useful to note here that when M. de Morgan's huge trial trench had led to the discovery of that early burial-ground and was consequently widened to the north-west (see the corner marked in Fig. 51), all the earth removed from the find place, down to virgin soil, was heaped into the small mound seen on the left of the photograph. This mound measures now some 30 feet in diameter, with a height of 6 feet. The funerary deposits lay to about 1 metre above the virgin soil. Above them no pottery of Susa II was found, but after a considerable interval polychrome painted ware and datable Elamite remains.

pottery of the same early chalcolithic period, covered only by a few feet of earth. But the funerary deposits of Susa type I were far richer and more varied, and the archaeological value of that great find is vastly enhanced by the chronological evidence which the great accumulation of datable remains in the layers above affords.

The interesting structure, the hospitable shelter of which I enjoyed during my short visit to Susa, deserves perhaps a passing note as it has played its part in the latest history of the site. It deserves to be called 'Château de Suse'; for the imposing appearance it presents on the highest of the mounds is exactly that of a medieval castle. It was built under the direction of M. de Morgan at a time when some regard for safety was no doubt needed in view of the possibility of Lūr raids and Bedouin incursions from across the near Turkish frontier. Its walls of surprising thickness, largely built with burnt bricks from the ancient ruins around, do not appear to afford much protection against the intense summer heat of the Khūzistān plain, as the experience of the few British officers quartered here during the early years of the war showed. A small detachment of Indian cavalry was then stationed on the Susa mound to guard the passage of the Karkheh river, some miles away to the west, against Turkish irruptions aiming at the destruction of the oilfields or at least of its vulnerable pipe-line to the coast.

I was very glad to find in the well-stocked library of the 'Délégation' several important French publications on Persian antiquities which I had vainly tried to consult while at work in Kashmīr. They helped to add to the value and pleasure of the antiquarian treat which I had enjoyed

in my genial host's learned company. So I left the great historical site where I had had once more the satisfaction of finding myself on Alexander's track with very grateful recollections of all the kind hospitality and instructive guidance received. On February 20th the single daily train with its single passenger car carried me back to Sālihābād, and next morning I was glad to set out for Lūristān and to leave for some time modern means of traffic behind.

CHAPTER IV

ALONG THE SAIMAREH RIVER

SECTION I—FROM PĀ-I-PUL TO JAIDĀR

THE journey started on February 21st was to lead me into the western portion of Lūristān, known as Lūristān-Kūchik, and the approach chosen to it lay along the Saimareh river, which drains practically the whole of Lūristān. It is called Karkheh from where it bends round the eastern extremity of the high Kabīr-kōh range and enters Khūzistān. A march of some 14 miles from Sālihābād across open grazing land with scattered Lūr encampments brought us to the river where the ruined bridge, known as *Pā-i-pul*, awaited examination. That it had, like the famous old bridge across the Kārūn at Shustar, served also, and probably mainly, the purpose of a *band* or barrage to feed irrigation canals had been recognized before, and some account of the old canals traceable from this head had been contributed by M. Van Roggen, a Dutch engineer, to M. de Morgan's series of *Mémoires de la Délégation en Perse*.[1] As this, however,

[1] See Groodt van Roggen, 'Notice sur les anciens travaux hydrauliques en Susiane', *Mémoires de la Délégation en Perse*, Deuxième Série, vii. (1905) pp. 190 sqq.

[Reference to this contribution could be made by me only after my observations were recorded as below. Comparison of the latter with Figs. 478, 479 of that contribution and the brief notes accompanying them suggests that the dimensions there indicated have been affected by some error of scale.]

was chiefly concerned with a series of abandoned canals described as traceable in the desert plain below the bridge, an inspection of the remains of the latter was still desirable.

The Karkheh river, flowing in a bed about 150 yards wide at the time, proved quite unfordable, and no means for crossing it by skin raft or otherwise could be secured, no inhabited place on either bank being nearer than about 10 miles. My examination had consequently to be confined to the left bank. There altogether fifteen low bases of piers, once carrying arches, could be seen, all in a state of far advanced decay, though showing much evidence of successive later repairs. Five of these pier bases are found stretching from the actual river-bank to a small canal which seemed to be modern and to have failed to carry water for some time. Beyond this and after a wide gap ten more much decayed bases of piers stretch across ground liable to inundation at high floods as far as the edge of the high ground overlooking the river. The pier nearest to the river has been partly washed away by it. What remains of it shows large slabs of stone at the foot with cemented brick masonry above, evidently dating from a later repair. The rapid current in the bed looked obviously obstructed by remains under the water. Between this first pier and the next, 16 yards off, stretches a raised *band* of solid masonry set in mortar. As this still retains a plastered surface it cannot date back very far.

The second pier is less damaged than the rest. It is 30 feet thick and measures 42 feet in length besides having an angular breakwater end upstream, 27 feet long. Outside a core of cemented rough stones and rubble there survive on one side three courses of large dressed slabs

forming a facing. It was of interest to note as a sign of early construction that all these slabs show holes from which metal clamps have been removed. The corners show repairs with hard bricks 11 inches square and $2\frac{1}{2}$ inches thick. Repairs with bricks are to be seen also in the third and fourth pier bases, the facing of the concrete core consisting elsewhere of water-worn stones set in mortar. The angular breakwaters are built wholly with bricks. In the fifth pier the masonry consists entirely of brick courses with thick layers of mortar between. These brief observations will suffice to show that the bridge, probably dating from pre-Muhammadan times, has undergone extensive repairs at successive periods.

Without having M. Van Roggen's article to refer to on the ground, I was unable to trace various details there given about the canals taking off at the ruined bridge. But that this was meant to serve as a 'canal head' or *su-bāshi*, to use the expressive Turkī term, is certain. Equally obvious is it that a barrage maintained in this position would be the means of greatly increasing such irrigation facilities as exist at present over the great waste spaces which stretch down towards Shūsh along the left bank of the Karkheh. Whether local tradition combined with critical search in Arab historical and geographical literature could furnish reliable data as regards the construction and later fate of the Pā-i-pul barrage is a subject for research which must be left to others.

About 800 yards above the bridge there stretches down from a conglomerate terrace to near the left bank of the river a massive wall 8 feet thick. It strikes at right angles the line of what obviously was the head of a canal, marked

by a straight shallow depression about 17 yards wide. The eastern bank of the canal is lined by a retaining wall, probably intended to protect it from being silted up by earth washed down from the rising ground above. This retaining wall is traceable for about 110 yards, and is strengthened at intervals of 17 yards by small buttresses about 3 feet broad. About 50 yards above this retaining wall can be seen the line of a much larger old canal which received water through a deep cutting in the conglomerate cliff where it approaches the river-bed. This cutting, with a maximum depth of about 20 feet, has its upper (northern) end at a distance of about 400 yards from the head of the lower canal; it has a width of 17-18 yards and extends for about 180 yards. Fallen masses of rock block this cutting in places. From a height above it was possible to make out the continuation of this main canal, running for a considerable distance southward, and also branches spreading out from it about half a mile below the bridge. There was impressive evidence here of the extent of ground, now all scrubby waste, to which the canals fed by the Pā-i-pul barrage must at one time have brought water and fertility.

My intention had been to follow the right bank of the Karkheh up the great westward bend which the river makes after turning the Kabīr-kōh, and to look for any ancient remains which might be traced to the west of the river. But as the crossing of the river had proved impossible at this season, we had to strike north in order to gain the road leading up the valley which holds the middle course of the river, there known as Saimareh. There was some compensation for this enforced change of route in the fact that the wide area of low conglomerate hills and plateaus

to be crossed had so far remained unsurveyed. This was largely due to the predatory habits, prevailing until quite recently, of the Sagwand and Dirikwand Lūr tribes who are accustomed to visit it as a winter grazing ground, and who often carried their raids as far as Dizful.

The passage across this ground took us three days, and proved far more troublesome than anticipated. The local knowledge of one of our gendarmes who had crossed it some years earlier on a military expedition, hunting a rebellious Lūr tribe, soon gave out. After proceeding for about 9 miles along the Karkheh river where it winds in a cliff-bound bed through a plateau covered with fine grass at the time, we reached a point known as Māhī-bāzān where the river turns off sharply to the west. There, leaving the river, we passed into a perfect maze of deeply eroded narrow gorges which made it very difficult to keep our intended direction for long. To the detours necessitated by the ever twisting ravines was added the uncertainty of being able to find water. Such guidance as could be obtained from solitary grazing Lūrs proved inadequate or else intentionally misleading. Finally a track leading across a grass-covered flat brought us to a deep cañon, at the head of the Galāl-i-mūrt streamlet first struck at Māhī-bāzān. There a small pool holding rain water allowed us to camp.

On the morning of February 23rd the clouds which had been threatening before descended in earnest, and a trying march followed in mist and drizzling rain. After having marched for some 15 miles up and down ravines and along steep narrow ridges between them we gained the crest of this strangely fissured and contorted hill-chain at a height

of 1500 feet. Looking down the precipitous slopes northward the Surveyor's keen eyes sighted at last a well-marked track, and beyond it the black tents of a small Lūr camp. Exceedingly scanty as were its resources in the way of fuel and milk, we were all heartily glad to have reached this spot, known as Rag-zugāl; for heavy rain started during the night and with short intermissions continued the next day. Here at last guidance was secured, and moving on February 25th in a northerly direction across an endless succession of ravines between steep broken hills we gained the open and almost flat stony valley lying along the foot of the Kōh-Marāb. There we struck the newly built motor road which, passing through the central tracts of Lūristān by Khurramābād and Burujird, affords the only route for mechanized transport between Tehrān and the head of the Persian Gulf. Following it for the last three miles we arrived at the half-decayed serai with the gendarmerie post holding the bridge across the Āb-i-Zāl, the last important tributary of the Saimareh. There we halted.

My intention when starting on February 26th was to visit a reported old site known as Shahr-i-Chīn-i-Zāl, about 4 miles in a straight line higher up on the river's right bank. But rain descending afresh obliged us to pitch the tents at a hamlet of Bahārwand Lūrs in a nook of the rugged Kōh-i-Kūseh after crossing the Āb-i-Zāl. The river flows in a narrow and deep gorge, probably impassable here at at any time except by a bridge. The present one spanning the gorge with a single arch was in bad repair, and the remains of not less than four earlier bridges could be seen at short distances lower down. The lowest of them, at a

point where the gorge widens, showed three piers on the right bank, but it could not be examined more closely owing to the rain.

Shahr-i-Chīn-i-Zāl when reached next day, after crossing steep ridges of bare gypsum rock, proved to be situated in a small grassy plain about three-quarters of a mile long and encircled by hills through which the river has cut its way in a deep bed. The little plain, at present uncultivated, was once irrigated by a canal of which traces were stated to be still visible higher up in the gorge. The site is marked by broken walls and debris of plain pottery extending over an area about 240 yards across. It occupies a small ridge at a distance of some 500 yards from the mouth of the gorge where the river enters the plain. Barrel vaults, in shape nearly semicircular, are still seen rising above some dwellings embedded in the ground. Whether occupation of the small town site dates from Sasanian or later times could not be decided, but the far-advanced decay pointed to considerable age. It was of interest about 100 yards below the upper end of the site to note a small rock-cut channel, $2\frac{1}{2}$ feet wide and $3\frac{1}{2}$ feet high, amidst huge blocks of conglomerate. It probably served for a mill-stream. Its position high above the level of the river suggested that there might have been here an aqueduct thrown across the river serving also as a bridge; but no definite remains could be seen.

After regaining the motor road we followed it for two easy marches up the Saimareh valley to where the road turns off to gain Jaidār on the Kāshgān river. Along this stretch the valley, enclosed between the rugged Kabīr-kōh on the west and the wall-like slopes of the equally barren

Kiālān range on the east, contains very little ground capable of cultivation. No ancient remains were to be met on these marches, and no detailed description of the ground now passed by a much-frequented high-road is needed.

The river has cut here its tortuous bed in such deep and extremely narrow ravines as to be practically invisible from the road. But a curious point on the river known as Pul-i-tang ('Bridge of the Cleft'), which I was able to visit by turning off from the road for a short distance, may be noted. There the river has cut its narrow rock-lined bed to a depth of some 120 feet below the limestone cliffs where a modern bridge spans the cleft. In places these fantastically eroded cliffs overhang the river (Fig. 56). At one of these spots below the bridge the distance between the overhanging cliffs on either side is reduced to only about 6 feet. Here a jump right across from ledge to ledge, such as Sir Henry Rawlinson witnessed in 1836 on his move down the valley,[2] might well have been risked by lithe-limbed Lūrs from bravado. A little above the present bridge there are seen two small piers marking the approach to an older bridge, probably the one which Sir Henry Rawlinson mentions. His description of the bed, which, as earlier banks show, erosion has cut down to its present depth is so correct and graphic that I cannot forgo to quote it:

> The sides are honeycombed in the most fantastic manner, as though the chasm had been gradually worn down in the rock by the action of the water; and the river boils and foams below in its narrow bed, as we might fancy of Styx or Phlegethon.

At the small hamlet of Tang-i-Fannī the motor road

[2] See 'March from Zōhāb to Khūzistān', *J.R.G.S.*, ix. (1839) p. 62 sq.



56. GORGE OF SAIMAREH RIVER, SEEN FROM BELOW TANG-I-PUL

turns away from the Saimareh valley and climbs up in numerous serpentines to the top of the very steep western extremity of the Kiālān-kōh. It crosses this at an elevation of more than 3000 feet at the Gardaneh-i-chūl, the 'Pass of the Wilderness', appropriately so called from the desolation of wildly upheaved limestone rocks bearing testimony to the same great seismic cataclysm which has shaken down a portion of this spur into the Saimareh valley below, and by damming this up for a protracted period created the great lake once filling in geological times a part of this valley, as attested by recent observations.[3]

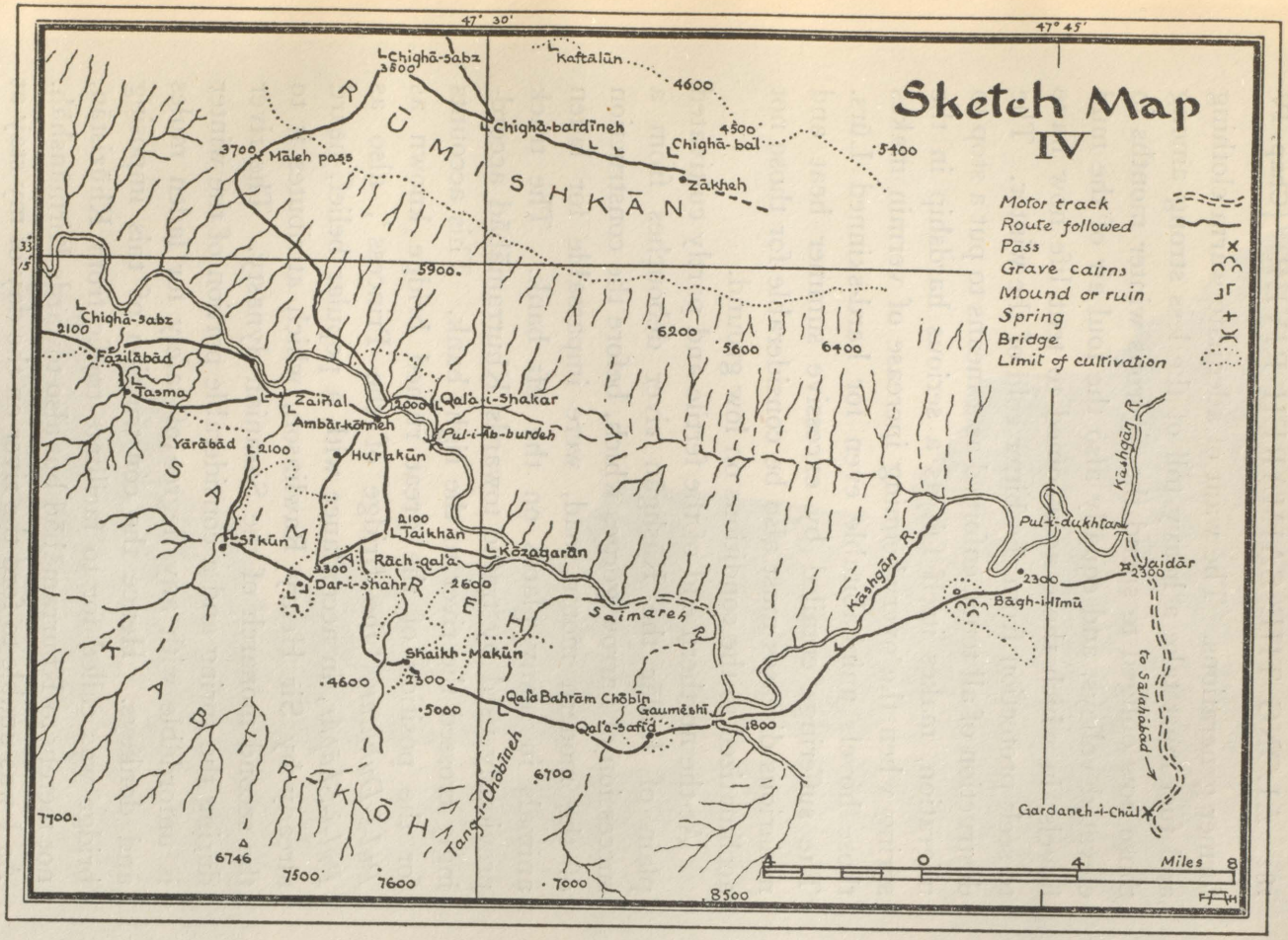
A series of small drainageless lakelets, probably due to the same great geomorphic disturbance, is passed by the road before it descends over broken gypsum hillocks into the riverine plain of Jaidār. Instead of ascending by the Saimareh river to the wider portions of its valley farther up, the archaeological survey of which was my aim (see Sketch Map IV), I had followed the modern high-road as far as Jaidār in order to examine the great ruined bridge over the Kāshgān river to be seen there. Before, however, describing this remarkable structure, I may record a few observations of quasi-historical interest connected with the opening of the strategically as well as commercially important road which passes up the Kāshgān valley and cuts through the middle of Lūristān.

All through modern times Lūristān, owing mainly to the persistent conditions of anarchy prevailing among its tribes, had remained the least civilized portion of Persia.

[3] See Mr. J. V. Harrison's and Mr. N. L. Falcon's very instructive paper in *Geographical Journal* (1937), vol. lxxxix. pp. 42 sqq., where the ruined bridge discussed below, pp. 212 sqq., named by them Pul-i-Shikari, is briefly mentioned on p. 46.

The semi-barbarism of its nomadic inhabitants was scarcely relieved by such characteristics as bravery and tribal cohesion as compel respect even for the least reputable Pathān tribes on the Indian North-West Frontier. Only during the last few years has the strong hand of the present Shāh's regime, through effective military operations, largely aided by this well-engineered and properly guarded new high-road, reduced to order and peace this congeries of turbulent tribes ever given to plundering or at feud with each other, and but rarely controlled by capable chiefs. The heavy traffic constantly met by us while moving along this road bore striking evidence both to its economic importance and to the degree of security which the Iranian Government had succeeded in securing for it. Among the measures adopted for this purpose the gradually enforced settlement in fixed habitations of the hitherto nomadic or semi-nomadic population has played an important part.

The exceedingly primitive look of such newly erected dwellings as were to be seen along this road, as elsewhere, curiously illustrated the novelty of the change and the absence of any building tradition. It cannot be doubted that this change, so beneficent on the whole, must involve serious hardships for a considerable proportion of the tribal population. For those who were accustomed to seek warmth and grazing during the winter months partly in the plains of Khūzistān and partly in adjacent lower valleys and to migrate with their flocks to high ground in the mountains for the rest of the year, are now forced to face climatic extremes in one form or another for which they have not been prepared by the experience of



IV. SKETCH MAP OF PORTIONS OF JAIDĀR, SAIMAREH, RŪMISHKĀN TRACTS FROM PLANE-TABLE SURVEY (FIELD RECORD, SUBJECT TO ADJUSTMENT)

former generations. The want of adequate warm clothing and fuel must take a heavy toll of the less strong among those now obliged to spend the rigorous winter months in elevated valleys, and equally also the foul air of the mud hovels, in which those accustomed to tent life now have to seek protection from the bitter cold of the winter. The destruction of all tents, enforced as a means to put a stop to migration, makes itself felt as a serious hardship in the spring when the overwhelming increase of vermin makes those hovels uninhabitable even for hard-skinned Lūrs. The sufferings entailed by excessive summer heat and malarious diseases must also be considerable for those not acclimatized to the conditions on low ground.

At the northern end of the fertile and partly cultivated plain of Jaidār the Kāshgān river debouches from a succession of narrow gorges which, before the construction of the modern motor road, were impassable for laden animals in many places on the left bank. The track previously used by traffic towards Khurramābād accordingly crossed the river to the right bank. This accounts for the position of the great ruined bridge known as *Pul-i-Dukhtar*, 'the Bridge of the Princess', also as *Pul-i-Shāpūr*, in accordance with a popular belief, heard already by Sir Henry Rawlinson, which attributes it to the second monarch of the Sasanian dynasty. The river during the spring and a considerable portion of the winter is unfordable with any degree of safety for laden mules and donkeys. Hence the construction of this imposing bridge was called for to facilitate traffic from Khūzistān, not merely to Khurramābād but also towards Kirmānshāh. As I was unable to ford the river on the day of my stay at



57. RUINED BRIDGE OF PUL-I-DUKHTAR, ACROSS KĀSHGĀN RIVER, LOOKING UPWARDS FROM LEFT BANK

Jaidār (March 2nd), the sketch plan of the remains of the bridge (Fig. 57) as shown in Plan 12 had to be prepared by plane-tabling from the left bank. It therefore can be considered as only roughly approximate as regards the dimensions of piers and arches on the right bank. The indication of the approaches to the terminal piers on either bank is quite conjectural.

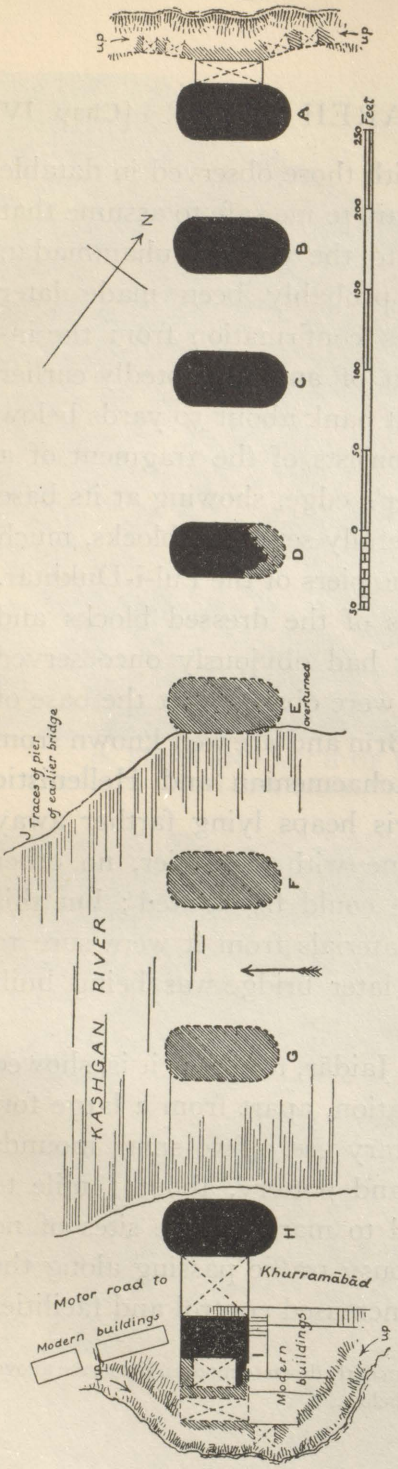
The river-bed, about 100 yards wide between the still fairly preserved high pier, *H*, on the left bank (Fig. 58) and the partly broken one nearest to the right bank, *E* (Fig. 59), appears to have been spanned by three arches. Of the two intermediate piers, *F* and *G*, on which these rested, only broken remnants of cemented masonry emerge from the rushing water. On the left bank, where the river closely approaches the almost vertical cliffs, there still rises the imposing pier, *H*, to a height of 70 feet. The arch which rested on it and another, *I*, adjoining the cliffs has a span of 37 feet and is still intact, the modern road passing under it. The width of the extant roadway above the arch is 27 feet, while that of the piers at their base is 42 feet 8 inches. The arch is distinctly pointed and constructed with several concentric courses of bricks.

The piers are built with cemented rough stones and faced with dressed blocks of limestone. In the lower portions these are large and of variable size, but they are always set in regular courses; higher up the facing slabs are all square and of a smaller but regular size (Fig. 58). The pier by the brink of the water was strengthened by two round-ended buttresses, the one upstream having a projection of 21 feet, the other 9 feet. The approach to the great height of the arch lay by a paved path ascending by the side

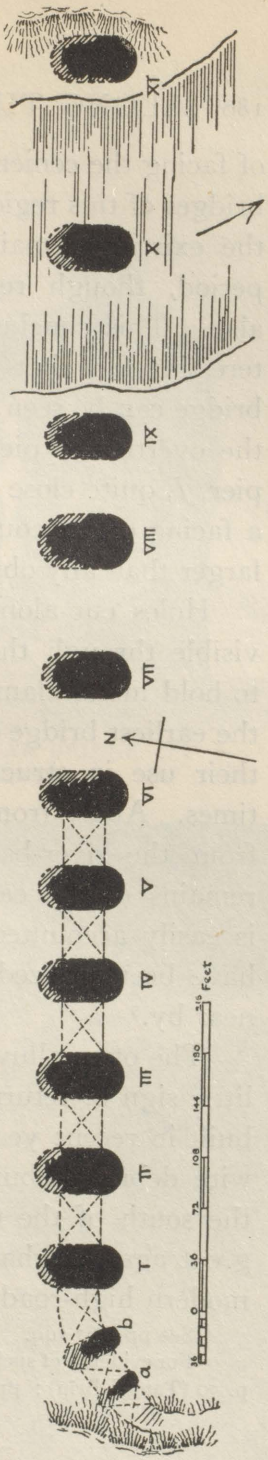
of the cliff; but now owing to fallen masses of rock and recent structures at the foot this is difficult to follow throughout. Access to the top of pier *I* was gained over a small vaulting, 10 feet broad, in its present broken state.

On the right bank three piers, *A-C*, could be seen still standing more or less intact to the height from which had sprung the connecting arches, now fallen. The construction of these piers seemed to have been the same as that of the piers on the left bank. Approach to the top of pier *A* appears to have lain by a long and narrow ramp carried over vaults and connected with the pier by a small arch still standing. Of the other piers on the right bank, that marked *E* on the edge of the water lies completely overturned and fissured into several sections (Fig. 59). The cohesion in these upheaved portions of the cemented core and facing illustrates the solidity of the structural methods. The true character of a mass of similar masonry, marked *D* in the plan, could not be definitely determined from a distance. Another smaller mass of broken masonry may represent the fallen portion of an arch. Within the river-bed and at the time partly submerged by the rushing water could be seen six compact masses of masonry (Fig. 59). Whether they all belonged to the two conjecturally assumed piers *F* and *G*, or to the arches carried by them, remained quite uncertain. The solidity of these huge, still coherent fragments of masonry gave some indication of the force with which great floods must have swept against the bridge before completely breaking it.

On comparing such structural features of the Pul-i-Dukhtar as the pointed arch on the left bank and the type



12. ROUGH SKETCH PLAN OF PUL-I-DUKHTAR, JAIDĀR



13. ROUGH SKETCH PLAN OF PUL-I-KĀSHGĀN SUMĀQ

of facing the cemented core with those observed in datable bridges of this region,[4] it appears to me safe to assume that the existing remains belong to the early Muhammadan period, though repairs had probably been made later also. This conclusion receives confirmation from the interesting fact that the remnant of an undoubtedly earlier bridge can be seen on the right bank about 50 yards below the overturned pier *E*. It consists of the fragment of a pier, *J*, quite close to the water's edge, showing at its base a facing of six courses of carefully set stone blocks, much larger than any observed in the piers of the Pul-i-Dukhtar.

Holes cut along the edges of the dressed blocks and visible through the binocular had obviously once served to hold metal clamps such as were observed at the base of the earliest bridge of Tang-i-Brīn and are well known from their use in structures of Achaemenian and Hellenistic times. Apart from two debris heaps lying farther away from the river-bank in a line with that pier, no other remains of the earlier bridge could be sighted; but this is easily accounted for, as materials from it were sure to have been utilized when the later bridge was being built near by.[5]

The open alluvial plain of Jaidār, fertile as it is, showed little sign of returning occupation, apart from a large fort built in recent years for military use. Two small mounds with debris of burnt bricks and pottery, about 1 mile to the south of the fort, proved to mark village sites of no great age. Perhaps all the busy traffic passing along the modern high-road, with the increased control and facilities

[4] See pp. 267 sqq.

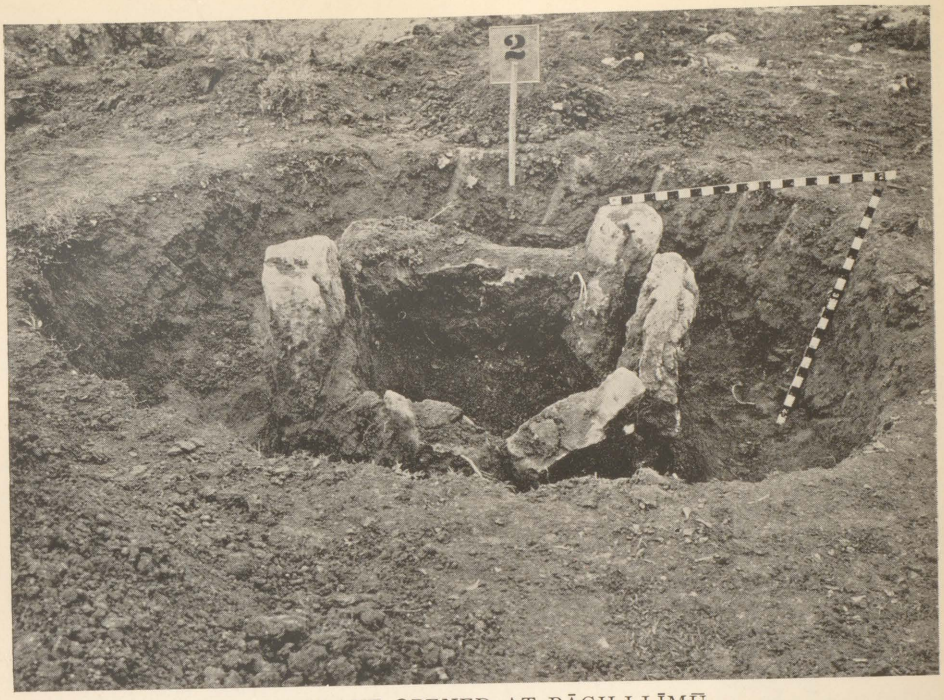
[5] For evidence of such procedure from early down to modern times, see above, p. 50 (Tang-i-Brīn); pp. 191, 270 sq. below.



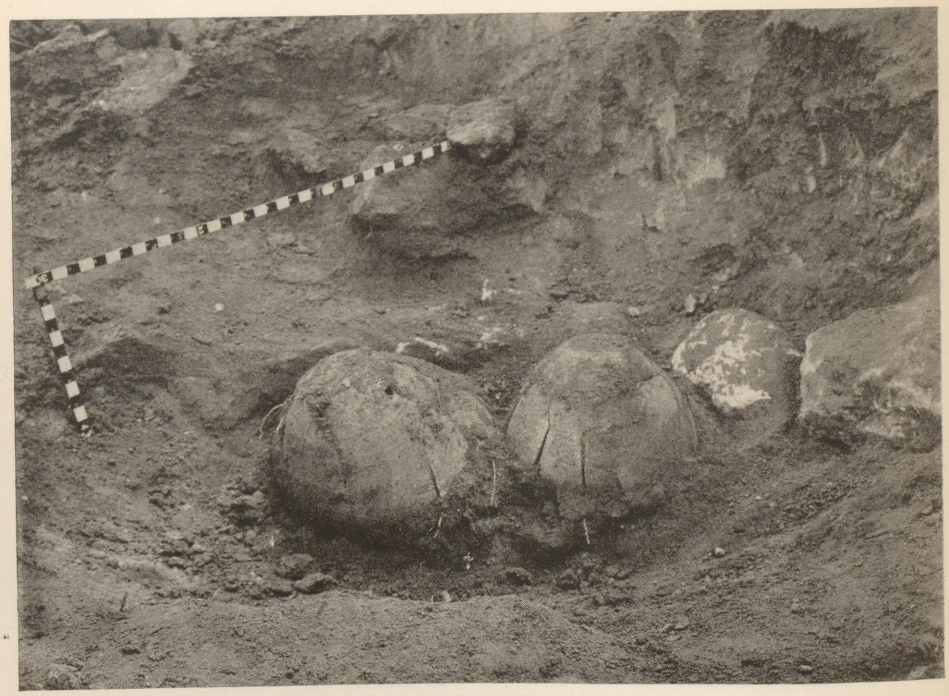
58. PIERS AND ARCH OF PUL-I-DUKHTAR BRIDGE, ON LEFT BANK OF KĀSHGĀN RIVER



59. REMAINS OF RUINED BRIDGE, PUL-I-DUKHTAR, SEEN FROM LEFT BANK OF KĀSHGĀN RIVER



60. GRAVE OPENED AT BĀGH-I-LĪMŪ



61. BURIAL DEPOSIT IN SECTION VIII, KŌZAGARĀN

for exactions, helps to keep involuntary Lūr settlers away from such exposed ground.

While at Jaidār I could learn of no local tradition concerning the ' Bridge of the Princess '. However, through two Lūr headmen visiting a petty official at the fort, a report was received of some ' Gabr graves ' to be found near their newly settled hamlets of Bāgh-i-līmū. The place lay on our way back to the Saimareh and was reached after a march of only 5 miles to the south, behind low gypsum hillocks. The two hamlets of newly built reed huts took their name from an orchard which existed here till it was destroyed when the Judaki tribe took possession of the tract in the course of a tribal feud. On a piece of low swelling ground a quarter of a mile to the east of the main hamlet a number of holes surrounded by large stones showed where an ancient burial-place had been partially searched in recent years. No information about any finds could be obtained. But there was no doubt that this digging had been carried on under the incentive supplied by the ready sale which for a dozen years or more the ' Lūristān bronzes ', secured from graves in valleys farther west, had found among the antique dealers of Kirmānshāh and Hamadān. Large stones just emerging from the grassy surface of the ground would furnish an easy guide to such graves.

Over an area measuring about 260 yards in length and 90 yards across numerous small enclosures, marked by stones set upright and evidently undisturbed, could be traced. The examination of some twenty effected during a halt on March 4th showed that such enclosures, usually roughly circular or oblong, measured from 2 to 3 feet

across and sometimes had a large stone slab as a covering on the top. Fig. 60 shows one grave after opening. In the loose earth filling the interior to a height of 2-2½ feet there were generally found small bone fragments, apparently human. This manner of burial showed close resemblance to that of the *dambs* which had become so familiar to me from the north of British Balūchistān right through to Makrān and parts of southern Persia.[6] Apart from fragments of plain pottery, burial deposits were scanty.

They comprised a well-finished stone-axe head (1, Pl. VII); a small stone disk, with a slight depression in the centre of each side (3, Pl. VII); a black haematite mace-head (2, Pl. VII); a lenticular bead of greenish-yellow glass, decorated on each side with fourteen ' cup ' depressions; a barrel-shaped carnelian bead whitened by heat. Two small jars of echinus shape, painted with geometrical patterns in black and with small vertical lugs (5, Pl. XXVII) were found each close outside the stone enclosure of a grave, and another, completely broken, placed in a similar position within a large pot. In each case a bone fragment lay close by. A painted potsherd picked up on the surface shows a spiral design closely resembling those seen on painted ware found at the *damb* sites of Fanūch and Damba-kōh in Persian Makrān.[7] These scanty objects do not admit of any definite dating. But combined with the similarity of the burial custom of bones deposited after

[6] See *Archaeological Tour in N. Baluchistan*, pp. 46 sqq.; Index, *s.v.* burial cairns; *Archaeological Tour in Gedrosia*, *s.v.* burial cairns; *Archaeological Reconnaissances*, *s.v.* dambs.

[7] See *Archaeological Reconnaissances*, Fan. Q. 67, Pl. XXV; Dam. I. surf. 25, 1; E. 12, 14, Pl. XXVII. Cf. also *Archaeological Tour in Gedrosia*, Ji. III. lxxvi. a, Pl. VIII.

exposure of the bodies to birds and beasts of prey, they suggest a period scarcely earlier than the first millennium B.C. as assumed for the *dambs* of Makrān.

Section ii—IN THE SAIMAREH VALLEY

Our move on March 5th down to the Saimareh was the first of a series of marches which were to carry me over ground along that river passed in 1836 by Sir Henry Rawlinson. Our route to the point where the Saimareh is joined by the Kāshgān river followed the latter more or less closely across a succession of gypsum ridges. But glimpses of the river could be obtained only when we neared the Saimareh valley. For the tortuous course of the Kāshgān lies for the most part in inaccessible narrow ravines which it has cut deep into the gypsum formations.

From the height of the ridges we had splendid views across the Saimareh to the great Kabīr-kōh range, snow-covered all along its bold crest, rising here into peaks of more than 7000 feet. Where the Kāshgān river was sighted emerging from its gorges on to a riverine flat the track crossed a ridge which a roughly built and much decayed stone wall had turned into a position easily defended in old times. Farther on the route led along the edge of a grassy plateau, where at an elevation of a little over 2000 feet spring was greeting us with delightful verdure and a profusion of anemones in a variety of brilliant colours. As our journey took us higher and higher through the valleys of Lūristān spring kept ever with us, providing a constant treat for the eye ; otherwise it is short-lived in each part of this region. It was pleasant

to note how much this beauty of flowers was always appreciated by those Persians with us who came from more civilized parts, our muleteers and escort. Whether it impressed equally the hardy semi-barbarian Lūrs was more difficult to discern.

Arrived at Gaumēshī by the bank of the Saimareh, we found it too late to attempt to cross the river before nightfall with the only small skin raft available. So there was time for a close examination of the ruined bridge which once spanned the river a short distance above the ferry. The river, very deep throughout its course in the Saimareh valley, contracts here to about 25 yards, between outcrops of limestone rock. A single arch built with bricks and now broken had sufficed to span the bed proper with its rush of swirling water (Fig. 62). The approach to the great height of this arch had lain over eleven arches stretching across the sloping ground on the left bank.

On the right bank two arches, now broken, appeared to have sufficed to form the connexion with steep cliffs close to the river-bed. It was clear from the first that the bridge, known as Pul-i-Gaumēshī or Pul-i-Gaumēshān,[1] dated from Muhammadan times and had repeatedly been repaired. When Rawlinson in 1836 moved down here from the Kirmānshāh province with his small Persian force composed of the Gūrān regiment, the great arch spanning the river was still standing. He records that a small tablet built into the parapet commemorated the building of the bridge by Ḥusain Khān-i-Buzurg, a

[1] These are the alternate forms of the name as I heard it locally. Rawlinson gives the name as *Pul-i-Gāmāshān* and considers it a corruption of Gāmās or Gāmāsh-āb, "the title of the river in the early part of its course"; see *J.R.G.S.*, ix. (1839) p. 60.

famous Wālī of Lūristān, A.H. 1008 (A.D. 1599–1600). Whether this inscription, no longer found, referred to the actual construction of the bridge or to the last important repair may be considered doubtful.

That the great arch across the river was, like the rest, built with bricks could be seen from its abutments embedded in the cemented rough stonework of the piers. These are faced with squared blocks of stone of no great dimensions set in regular courses. The next arch, very pointed and built with a double course of large bricks, is still standing. The pier has a small arch under the roadway flanked by niches. Then nine small arches follow beyond a completely fallen arch marked by a gap. The low piers on which they rest carry vaulted passages in the direction of the bridge connecting vaulted rooms built across the length of the piers. The width of the roadway above is 10 yards. On both banks the core of the masonry in piers and superstructure consists throughout of rough stones set in mortar, but this seemed to me less hard than that in the ruined bridges seen in the Kohgalu valleys.

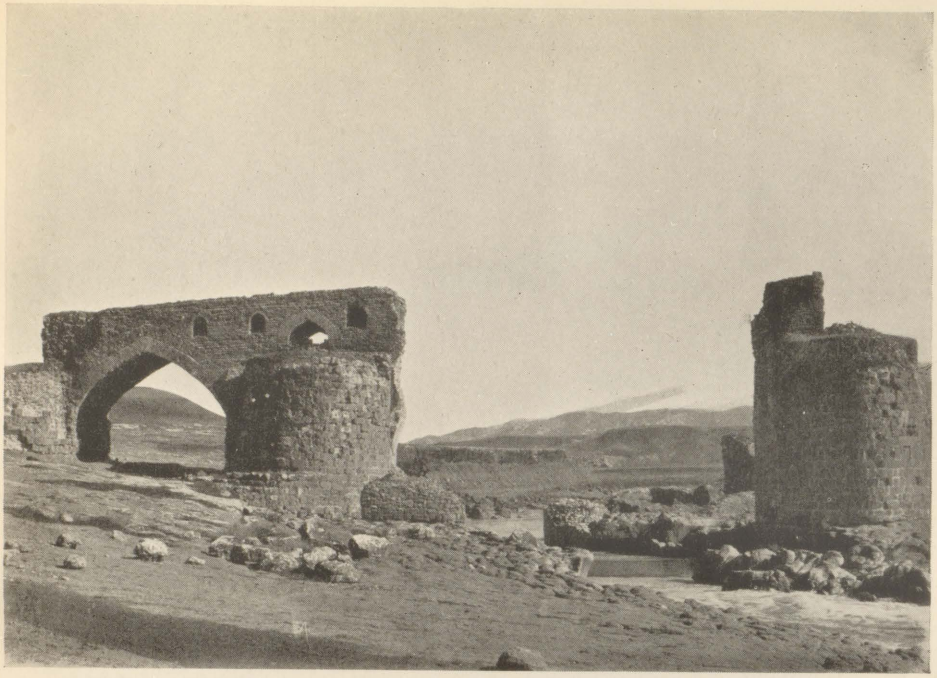
A short distance below the bridge there is seen on the right bank part of a pier faced with very large dressed slabs. It belonged to an earlier bridge which Rawlinson heard mentioned by the name of Pul-i-Khusrau, and which, as he rightly assumed, might be of Sasanian origin. A little above this appeared a small remnant of another bridge. Materials quarried from these earlier bridges had, no doubt, served for the building of the bridge still standing, and this explains the scantiness of the traces left of them. It is obvious that Gaumēshī must at all times have been of

importance as a crossing place between the Pusht-i-kōh and the central portion of Lūristān.

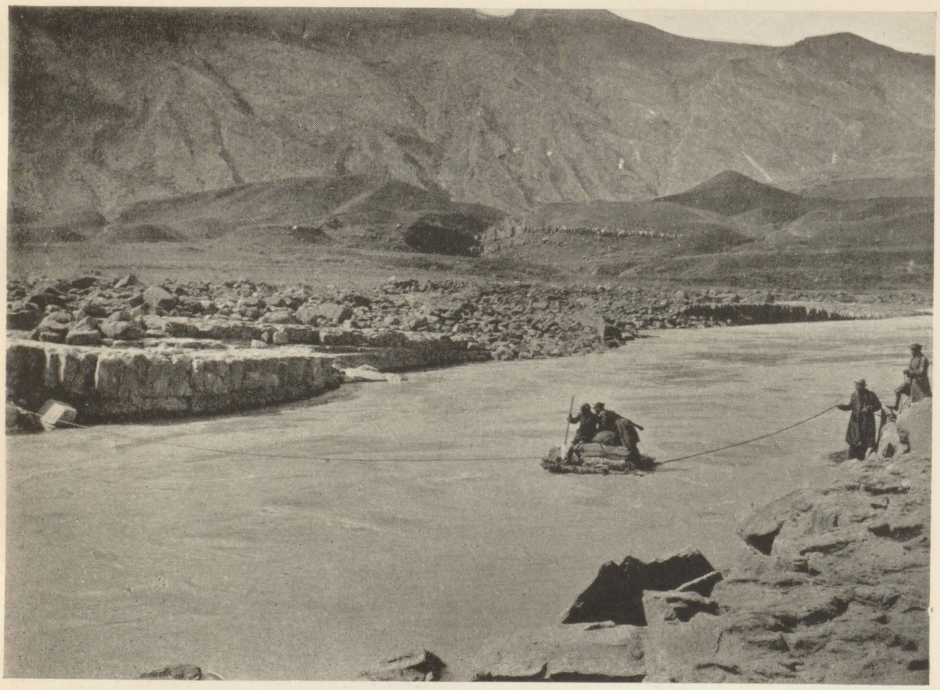
The crossing of the river next morning proved a very protracted affair. The single raft, made up of a dozen inflated goat-skins with a ' deck ' of reed bundles, could not carry more than three mule trunks or similar packages besides a single passenger at a time (Fig. 63). The use of a rope fastened to the raft helped more than the reed paddle in the ferryman's hand to keep the raft from being carried too far down by the violent eddying current. It was an anxious business watching for hours the passage of our impedimenta from one rocky bank to the other. The swimming across of our animals at a point somewhat lower down where the bed widens a little, fortunately took less time. But the ferrying of our whole camp including the escort occupied nearly the whole day.

The river, unfordable everywhere during the winter and spring where it flows within Lūristān, had to be crossed seven times more in this way. As Lūristān nowadays does not know the art of the potter, skin bags are used mainly for providing water for household and drinking purposes. The same bags when inflated are used for crossing the river. The hamlets to be found on its banks are so scattered and so small that only on one occasion was it possible to collect a number of skin bags sufficient for more than a single frail raft.

The tract entered after crossing the river was already known by the general name of Saimareh to early Arab geographers. It comprises a greater stretch of cultivable land than any tract in western Lūristān. This extends between the right bank of the river and the foot of a steep



62. PIERS AND ARCH OF RUINED BRIDGE ACROSS KĀSHGĀN RIVER, AT GAUMĒSHĪ



63. CROSSING SAIMAREH ON SKIN RAFT BELOW GAUMĒSHĪ



64. OUTER HILLS OF KABĪR-KŌH, TANG-I-IZHUDAR, SAIMAREH VALLEY



65. KŌZAGARĀN RIDGE WITH RUINED SITE ON CREST,
SEEN FROM SOUTH-WEST

and picturesquely serrated outer range of the Kabīr-kōh (Fig. 64) for a distance of close on 24 miles with a width of up to 4 miles in parts. This expanse of fertile ground is due to the great sedimentary deposits of alluvial soil left behind by the river in the ancient lake basin which was formed when the seismic landslide previously referred to at Gardaneh-i-chūl threw a great barrage across the valley.[2]

The flat plain of the ancient lake-bed is divided, as the sketch map IV shows, into a series of plateaus by a number of perennial streams descending from the Kabīr-kōh, which here rises to approximate heights of from 7000 to 10,000 feet. After cutting through a rugged outer hill chain in narrow gorges these streams have dug their beds deep into the soft alluvium. But where they debouch from the mouths of the gorges they provide ample water for terraced cultivation and are easily utilized to feed canals capable of irrigating the whole of the plateaus lower down.

The physical features here briefly indicated were bound to attract settled agricultural occupation to this ground from very early times, and experience soon proved my expectation of finding remains of prehistoric settlements to have been justified. The abundant notices which Arab geographers have preserved of the natural advantages and attractions of the tract called by them Ṣaimara, also Mihrijān-kūdhak, leave no doubt that it was of considerable economic importance both before and after the Arab conquest.[3] To the ruined sites attesting this flourishing condition of the tract in Sasanian and early Muhammadan

[2] See above, p. 179.

[3] For an interesting and helpful collection of these notices, see Schwarz, *Iran im Mittelalter*, iv. pp. 470 sqq.

times I shall have occasion to refer to further on. In more recent times it is known to have suffered often by having been an object of contention between the chiefs of Pusht-i-kōh, the area on both sides of the Kabīr-kōh to which it geographically belongs, and those who for a time succeeded in making themselves masters of Pīsh-i-kōh.[4]

On March 7th we moved from the hamlet of Qal'a-safīd where we had halted after the crossing, up the gradually widening valley. On the north, there stretched open arable ground; on the south the track led close along the foot of the precipitous limestone range (Fig. 64) which all along forms the outer rampart of the Kabīr-kōh. Glimpses of the latter's snow-covered heights were obtained through deep-cut gorges furrowing the outer range. After only a 5-mile march we reached, near the mouth of one of these gorges, known as Tang-i-Chōbīneh, the ruins of an ancient place of defence in a quite fantastic situation.

A process of intensive erosion, aided perhaps by a geological folding, had separated here a sharp-crested rocky ridge rising to a height of about 500 feet, from the absolutely bare face of the wall-like range behind it. Confined as is the space between the latter and the ridge, it had been utilized for a safe place of refuge by carrying a high wall built with rough stones and mortar right along the crest of the ridge. This curious little stronghold is known as Qal'a-i-Bahrām Chōbīn, after the Sasanian monarch famous in popular lore.

An extremely narrow gorge higher up, completely

[4] Sir Henry Rawlinson on his passage in 1836 found Saimareh cultivated by 300 families of the Amalah tribe of Pīsh-i-kōh and visited by at least 1000 families from other Lūr tribes of the same area; see *J.R.G.S.*, ix. (1839) p. 58. The number of families now settled must, I believe, be at least twice as great.

blocked by huge masses of fallen rock, descends from the range behind. From its cave-like mouth issues a spring-fed streamlet, and it is this presence of water which has caused the ravines ascending on either side behind that wall-crowned ridge to be chosen for a place of defence. The wall, 8 feet thick throughout and strengthened at intervals by bastion-like small buttresses, ascends the steep crest of the ridge on either side of the streamlet for a total distance which I estimated at close on half a mile.

How the gap at the outlet of the stream was guarded could no longer be ascertained. Under the overhanging cliffs at the mouth of the gorge there are found close to a spring the remains of broken walls and vaults of a small residence. Several half-buried doors and niches show semicircular arches. Hard plaster still adheres to portions of the walls, which show concrete masonry with extremely hard cement. All this suggests occupation in Sasanian times. In the ravines between the ridge and the mountain wall remains of ruined stone-built dwellings can be seen on little terraces up to a height of about 100 feet above the little stream. The absence of pottery debris suggested that occupation of this strange place of safety was confined to times of emergency.

After covering another 5 miles, partly over low gypsum hillocks here lining the foot of the outer range, we reached Shaikh Mākūn at the mouth of a wider gorge. Here a village of about one hundred households had been settled under recent administrative pressure near the fortified residence of a member of Ghulām Rizā Khān's family holding most of the arable land in Saimareh. It was interesting to observe how black woollen tents, reed huts

and little cubes of single-roomed stone-built 'houses' mingled in the new settlement. All stages, from free migratory life to temporary and then to permanent occupation, were represented. The total absence of anything like structural tradition in the building of those cube-like hovels was striking; equally curious, too, it was to observe the contrast between the drab rags and felt cloaks of the average Lūrs in this and other new settlements and the second-hand garments from Europe or America worn by the local gentry. Later on I became quite familiar with the double-breasted coats bearing the word 'General' embroidered on each side of the collar, the fashion for which seemed throughout Lūristān to have been taken up most by the headmen, etc. They were evidently garments provided for the employees of some Western 'General Omnibus Company', and seemed to represent smuggled imports from Basra or Baghdād.

I had hoped from the first that the open valley plain to the north might allow us to find remains marking prehistoric occupation. From a plane-table station before reaching Shaikh Mākūn we had sighted in the distance a hillock rising above flat alluvial ground towards the river which could scarcely be taken for a natural formation. So on March 8th we made our way towards it. When it was reached after a 5-mile march, partly across ground waterlogged after the abundant rain of this winter, the surmise proved right. The mound known as *Taikhān*, the most conspicuous among the artificial mounds of Saimareh, was obviously due to the accumulation of debris during prolonged periods. The mound proved to rise to 56 feet at its highest point and forms, as Plan 9 (p. 119)

shows, a rough oval with a major axis of a little over 180 yards. Had it been a mound in some such arid region as Makrān a little search on the surface of the slopes would have sufficed to establish approximately the periods of occupation. But here thick growth of grass and low coarse scrub would not allow of any satisfactory search. So after pitching my camp in the vicinity of the mound and the newly built quarters of Jamshīd Khān, the owner of the neighbouring land, I decided on a trial excavation.

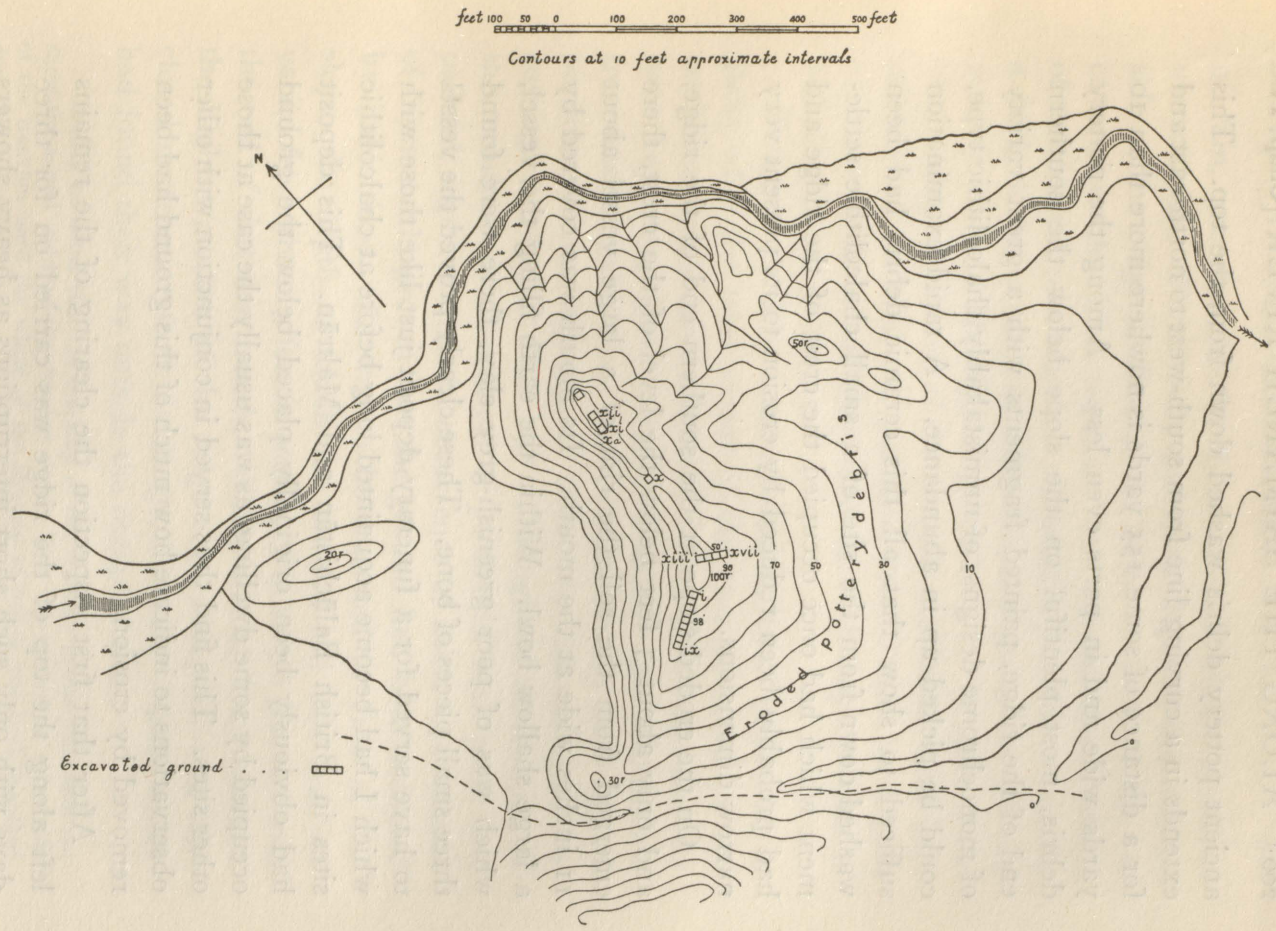
A cutting was made on the steep north-east side of the Taikhān mound from a height of 42 feet downwards and carried in eight sections down to the level of the adjacent ground. The greatest depth reached was about 8 feet. Down to a depth of 3 feet only fragments of coarse plain pottery were seen, but below this were found, associated with flint blades, painted potsherds with a variety of simple geometrical patterns (see 4, 5, 7, 8, 13, Pl. VII, for specimens), closely recalling painted ware found at chalcolithic sites of Fārs. A shaft sunk during two days from a depression on the top of the mound fully bore out the conclusion that while the greater amount of debris constituting the mound in its lower portion had accumulated during this prolonged prehistoric period, its height and size had been considerably increased by deposits from later occupation. Above a level of 25 feet only plain pottery could be found, too indeterminate in fabric to permit of any definite conclusion as to subsequent periods of occupation.

The level ground in the vicinity of the mound is also likely to have known in places occupation during chalcolithic times. This was proved by the presence of a number of fragments of painted pottery with geometrical patterns

of the same type in the earth which had been dug up for building an as yet unfinished dwelling quite close to Jamshīd Khān's house. It may also be mentioned here that on a low grassy mound visited within less than a mile to the north of the latter, numerous potsherds with neatly incised patterns (for specimens, see 6, 9-12, Pl. VII) could be picked up on the surface. Some of the patterns, including lanceolate shapes, curiously recalled those found on pottery of the late Hindu or early Islamic period in the North-West of India.

On the day of my arrival I had fortunately been able to trace a chalcolithic site of far more manageable size than the Taikhān mound and likely to prove distinctly instructive. Jamshīd Khān had taken me to a spot locally known as *Kōzagarān* ('the Place of the Potters'), and to this site our six days' stay at Taikhān was mainly devoted. It was reached after moving down the valley first for a mile across the cultivated plateau land and then for another mile between small ridges and nullahs eroded from the fine clay of the alluvial deposits. The place, which Jamshīd Khān had been accustomed to search for worked flints to kindle fires, and which children used to visit for potsherds to play with, proved a completely isolated narrow ridge of clay rising to about 100 feet above the patches of flat ground below (see Plan 14). On the north-western side, below which a small stream winds in a marshy bed, the ridge falls off very steeply with a concave slope (Fig. 65).

The south-eastern side slopes more gently towards a smaller spring-fed rivulet. Here the slope, which showed clearly the progressive effect of erosion after rain, was found to be strewn on its bare surface higher up with



14. SKETCH PLAN OF KŌZAGARĀN SITE, SAIMAREH

ancient pottery debris washed down from the top. This extends in a curving line from south-west to north-east and for a distance of some 155 yards is nowhere more than 10 yards wide and in parts even less. Among the pottery debris, most plentiful on the slope below the southern end of the ridge, painted fragments with a great variety of monochrome designs, of unmistakably chalcolithic type, could be picked up in abundance. A rapid examination sufficed to show that all this ceramic debris had been washed down from the site of a small chalcolithic settlement which had once occupied the crest of the ridge and had probably been reduced by erosion to its present very narrow dimensions.

On the eroded slope at the southern end of the ridge, and only about 3 feet below the level of the crest, there emerged from the soil the rim of a large vessel about 11 inches wide at the mouth. Its mouth was covered by a large shallow bowl. Within the earth filling the vessel, which was of poor greenish-grey clay, there were found three small pieces of bone. These clearly proved the vessel to have served for a funerary deposit just like those with which I had become acquainted long before at chalcolithic sites in British Balūchistān and Makrān. This deposit had obviously been originally placed below the ground occupied by some dwelling, as was usually the case at those other sites. This find thus served in conjunction with other observations to indicate how much of this ground had been removed by erosion.

After that first inspection the clearing of the remains left along the top of the ridge was carried on for three days with only such short interruptions as heavy showers

of rain, accompanied by bitterly cold winds, rendered unavoidable. Fortunately the steep slope on the western side of the ridge facilitated the quick removal of the excavated earth. This together with the convenient shape of the ground to be searched rendered it possible to employ a fairly large number of labourers and probe the ground quickly down to the original ground level. In spite of the very trying conditions of the weather our hardy Lūrs kept steadily to their work and gradually showed more intelligent attention to their task than their uncouth ways in general had allowed me to expect.

Owing to the far-advanced erosion, it was impossible to guess what the total extent of the area occupied by the settlement might have originally been. But it can scarcely have been very great judging from the fact that debris from ancient habitations could be traced only over certain portions of the ridge-top, as shown by the extent of the cuttings marked in Plan 14.[5] Throughout all sections of the trenches the abundance of potsherds, both plain and painted, together with the occurrence of ashes and streaks of burnt earth, proved that the ground had been occupied by habitations. As was to be expected in view of the slope, the depth at which the natural soil was reached varied from about 3 feet in sections i-iii to 5-6 feet towards the end of that first trench. Where a small knoll marked the highest portion of the ridge the cutting xiii-xvii disclosed no remains from dwellings, but only objects which had found their way outside the occupied area.

[5] It may be noted that the marking of the trenches in the plan does not show the actual width of the clearing done. This was carried on either side of the trenches until the whole of the stratum of debris had been searched down to the natural soil.

Before reviewing briefly the general character of the finds, mainly ceramic, the significant burial deposits may be noticed. In the case of the first brought to light in section ix it was of interest to note that a large vessel containing fragmentary human remains, including pieces of an adult skull, ribs, legs and arms, partly perished, was found there under a row of rough stone blocks. Some ashes indicated partial cremation; the body appeared to have been inserted in a crouching position. The vessel of buff-coloured pottery measured 1 foot 9 inches in diameter and had about the same depth. It broke into pieces while being cleared. The fact that the other vessels used for burials at this site similarly showed a very poor fabric, has suggested to me that they were specially made for funerary use. The purpose for which the stones found above the burial were intended is doubtful; no similar arrangement was noted in the case of the other burials. But that all these were placed with intent beneath habitations may be considered certain. This was made clear in ix also by a heap of broken plain potsherds found on a higher level, with the remains of a large vessel, 2 feet 4 inches in diameter. Its lid had slid on one side, probably while the vessel was in use by the living. No bones or ashes were found near it.

In section viii two burial-pots were found close together within a rough enclosure formed by stones (Fig. 61). The pots measured 15 inches and 13 inches in diameter respectively, being of the same depths and measuring 6 inches and 5 inches, respectively, across the mouth. Both were found with their mouths turned to the ground. Small bone fragments mixed with ashes filled portions of the inverted pots. The remains thus buried were in both pots

overlaid by a thin whitish film and below this by a fine powder-like layer of white colour, easily distinguished from the ashes and small bone fragments. I thought at first that this layer might represent some completely decayed bread-stuff (?). Two more burial-pots came to light in close vicinity to those mentioned above.

They were of smaller size, only 8 inches in diameter, and were placed upright, with the mouth of one covered with a flat bowl. One of them had its sides painted with a bold geometrical pattern. But the material of both pots was poor and badly affected by moisture. In both were found plenty of small pieces of human bones, including skull fragments, and also ashes. A burial deposit of a different type came to light in section xvii below the little knoll marking the highest portion of the ridge. There, close to the natural soil, were found four small pots, one painted (30-32, Pl. VIII), of different shapes, one of them containing a small bone. Near them lay a heap of small bones, evidently human. The large painted jar (6, Pl. XX) also found in xvii may have belonged to the same funerary deposit, and had perhaps been intended to hold water for the defunct.

The site of Kōzagarān, though what remains of it now be small, is noteworthy for the abundance of the painted pottery fragments it has yielded, and the great variety and careful execution of their designs. The fabric is mostly buff or terracotta, sometimes showing a slight slip, and the designs almost throughout executed in monochrome, mostly black. But pieces like 27, Pl. VIII, prove that polychrome decoration in black, red and buff, was not unknown. On terracotta a dark red dressing occasionally occurs. As the specimens reproduced in Pls. VII, VIII

show, the geometrical patterns, which form the great majority, are made up by combining in striking multiplicity such motifs as hatchings, cross-hatchings, zigzags, 'ladders', fringes, dots, dashes, sigmas, chequers, etc.

No attempt can be made here to compare these patterns with those familiar from the pottery of Susa I and certain sites in Fārs and Makrān. Of particular interest are the designs of animals, mostly of ibex (1-3, 5, 6, 28, Pl. VIII), birds (4, 9 [?], 11, 12, 15), bulls (7, 8), and highly stylized representation of humans (13, 14, 19, 20, 21, 23, 25).

Among the shapes of vessels, illustrated in Pl. XXVII, the various echinus forms (6, 7, 11) deserve notice. Fragments like 29, Pl. VIII, attest the use of pottery braziers so common at sites in Makrān. While handles and 'ears' were fairly numerous, only two spouts were found, one of them, an open channel, painted. Among the plain potsherds I noticed only rarely hand-made or mat-marked pieces. The terracotta figurine (24, Pl. VIII) represents a spotted animal. Among some terracotta whorls the cross-shaped ones (16, Pl. VIII) may be mentioned. The two stone seals found (17, 18, Pl. VIII) with simple geometrical designs are both drilled through for a cord. Flint blades and chips were found in plenty; also two obsidian blades and a large flint core from xii, proving that stone implements were worked on the spot.

There still remains to be noted briefly the quasi-geological interest offered by one aspect of this small site. I mean the position of its remains on a ridge crest far too narrow to provide adequate space even for the most modest of hamlets. I have already pointed to the abundant evidence which the debris found on the eastern slope of the

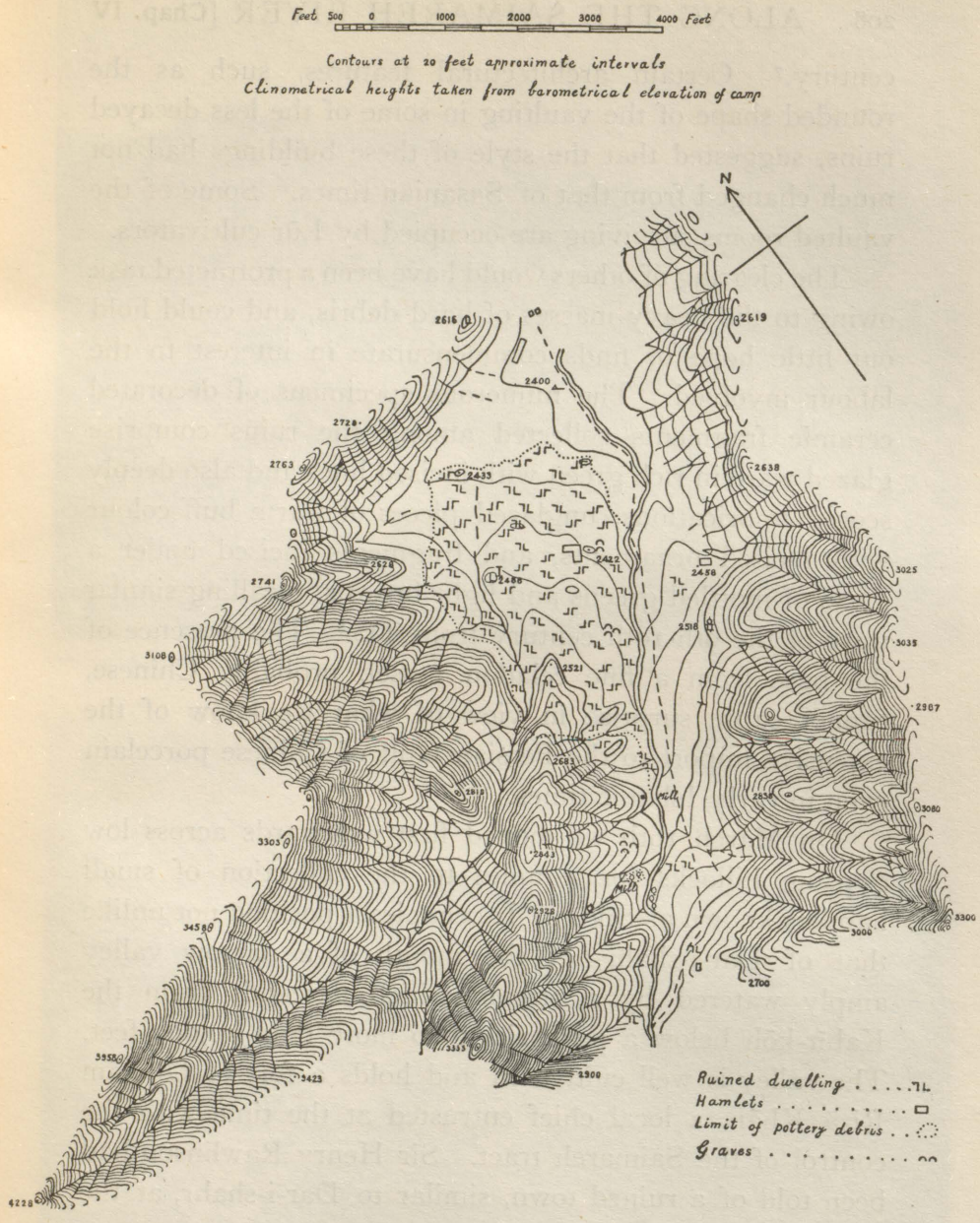
ridge affords of the progressive erosion of the soft alluvial clay of the soil composing the ridge. It is, of course, impossible to estimate how much deeper the small stream winding round the 'Potters' site' may have cut its bed in the course of, say, the last five thousand years. But it appears probable that the hamlet or village when first inhabited occupied more or less level ground giving convenient access to the stream and to the land cultivated with the help of water drawn from it. At present there is no ground capable of irrigation nearer than a mile from Kōzagarān. I shall further on have occasion to point out a great change which erosion has effected in the configuration of the alluvial *thalweg* of the valley within a far shorter period than has elapsed since the Kōzagarān site ceased to be inhabited.

On March 14th I left Taikhān to visit Dar-i-shahr, the chief ruined site and principal collection of hamlets in Saimareh, situated about 3 miles to the south-west. While my camp was moved there direct I proceeded first north to the river to inspect the mound known as Ambār-kōhneh (the 'Old Granary'). I found it occupied by the newly settled village of 'Alī Murād. The mound, about 15 feet high, did not show any ancient potsherds on the surface. Returning thence to the fertile plateau to the south, I visited the mound of Hurakūn. It measures about 120 yards in diameter and rises to a maximum height of 15 feet. A newly settled hamlet is built on it, and in spite of close search only one painted pottery fragment could be picked up on the surface. Burnt bricks of good quality, 10 inches square and 2 inches thick, were to be seen in a field close by.

The site known now as Dar-i-shahr or Dara-shahr in Lūrī pronunciation (the ' Valley of the Town ') is situated at the wide mouth of a picturesque gorge descending from the Kabīr-kōh. It corresponds undoubtedly, as already recognized by Sir Henry Rawlinson, to the town of Ṣaimara, well known to Arab geographers and historians.[6] As the sketch plan (Plan 15) shows, there stretch for nearly a mile and a half from north to south along a lively little stream much decayed ruins of houses, some of fair size, and of quadrangles, obviously serais, all built with rough stones set in mortar (Fig. 66). The maximum width of the area occupied by these ruins is about one-third of a mile. A few small hamlets are scattered over this area, their abodes being built among ruins. In the lower portion of the site some lines of streets and cross lanes could be distinguished. On a knoll rising about 100 feet above the valley bottom stands a detached structure which, with its enclosing wall, suggested a chief's mansion. The heavily stuccoed gate of the enclosure has by its side a plaster panel showing faint traces of an inscription in Kufic characters. By the side of this conspicuous structure passes a deeply cut torrent bed lined with walls in places and conducted through a tunnel higher up (Fig. 67).

Ṭabarī, the historian, tells of a terrible earthquake which in A.H. 258 (A.D. 871) shook down the walls in the largest portion of the town with great loss of life ; but later references show that the town, though much reduced in importance, continued to be occupied down to the 13th

[6] See Schwarz, *Iran im Mittelalter*, iv. p. 471 sq.; Rawlinson, *J.R.G.S.*, ix. (1839) p. 59, where the traditional designation of the ruined town as Shahr-i-Khusrau is mentioned.



15. SKETCH PLAN OF DAR-I-SHAHR SITE, SAIMAREH

century.[7] Certain architectural features, such as the rounded shape of the vaulting in some of the less decayed ruins, suggested that the style of these buildings had not much changed from that of Sasanian times. Some of the vaulted rooms surviving are occupied by Lūr cultivators.

The clearing of others would have been a protracted task owing to the heavy masses of hard debris, and could hold out little hope of finds commensurate in interest to the labour involved. The numerous specimens of decorated ceramic fragments collected among the ruins comprise glazed ware in rich green with incised lines and also deeply scored imbrications, unglazed pieces of warm buff colour with incised ornaments, and fragments incised under a glaze of mottled greens and light browns, recalling similar ware of the 9th-10th century from Tīz.[8] The presence of the base from a fine celadon vessel, probably Chinese, cannot cause surprise in view of what we know of the extensive import to the Persian Gulf of Chinese porcelain even in early Islamic times.

On March 16th we moved first westwards across low gypsum hillocks for 4 miles to the collection of small hamlets known as Sīkūn. It occupies a position not unlike that of Dar-i-shahr, at the mouth of a narrow valley amply watered by a stream which descends from the Kabīr-kōh below a peak rising to more than 10,000 feet. The valley is well cultivated and holds a fort of Ghulām Rizā Khān, a local chief entrusted at the time with the control of the Saimareh tract. Sir Henry Rawlinson had been told of a ruined town, similar to Dar-i-shahr, at the

[7] See Schwarz, *l.c.* p. 472.

[8] See *Archaeological Reconnaissances*, p. 91 sq.; Pl. IV.



66. DAR-I-SHAHR SITE, SAIMAREH, LOOKING SOUTH TOWARDS KABĪR-KŌH



67. RUINS NEAR VAULT OVER TORRENT BED, DAR-I-SHAHR, SAIMAREH



68. MIDDLE PIERS OF RUINED BRIDGE, PUL-I-ĀB-BURDEH, SAIMAREH, SEEN FROM SOUTH-EAST



69. GRAVE OPENED AT CHIGHĀ-BARDĪNA, RŪMISHKĀN

Tang-i-Sīkān, and had thought that it might be identified with Mihrijān-kūdhak, a tract mentioned by Arab writers in close connexion with Ṣaimara.[9] In reality, as Professor Schwarz has shown, the name appears to be only another designation for the latter.[10] No ruins were seen or reported to me; so the march was continued down to where the valley opens out into the riverine plateau. There, at the end of a gypsum spur, is found a small hillock which at its foot is skirted by two old canals. Near it lies the small hamlet of Yārābād.

I had been informed that sometime before my arrival Jamshīd Khān had had some digging done at the hillock in the hope of finding graves to search. There was evidence of his burrowing to be seen in a dozen places, but no sign of any burial deposits having been brought to light. A trench cut along the top of the hillock showed that it had been occupied by dwellings at a period perhaps prehistoric but considerably later than that of Kōzagarān. Besides plentiful coarse plain potsherds there was found an unpainted vessel set upright between two stones; this had evidently served for household use. There were a number of painted fragments, too, dressed with a buff or terra-cotta slip and decorated with annular lines or zigzag bands in red. A peculiar ornamentation with irregular hook shapes is shown in 1, Pl. IX. Two flint blades were also found, pointing to early occupation.

The rest of the day's halt at Yārābād was used for the inspection of some localities where old remains had been reported. Following down the stream of Sīkūn, I first visited Dakara-i-Sīkūn, which proved to be a natural

[9] See *J.R.G.S.*, ix. (1839) p. 60. [10] See *Iran im Mittelalter*, p. 470 sq.

terrace with traces of old walls of uncertain age on the top. Further down, and not far from a bend of the Saimareh river, there was to be seen on a high terrace, some 400 yards across, a modern fort with mud-built walls called Zainal or Qal'a-i-Sādiqān. At the southern foot some painted potsherds and a couple of worked flints were picked up. Thick grass impeded further search on the slopes and top. The terrace, about 50 feet high, is certainly a natural formation. Its height and detached position are likely to have caused it to be chosen for defensive purposes. But no deposits indicating permanent occupation in early times could be traced. Finally, recrossing the Sīkūn stream and moving west-north-west across the cultivated plateau, I visited the very steep conical hillock, rising to more than 100 feet, known as Qal'a-i-Tasma from a hamlet situated near by at the foot of a gypsum spur. The hillock proved a natural formation bearing on its narrow crest foundations of a small structure built with rough stones and mortar. A single sherd painted with multiple red bands picked up on the slope among plain pottery fragments did not suffice to attest ancient occupation.

March 18th was used for a reconnaissance up the valley to the north-west. At a distance of about 6 miles from Yārābād and at a point where the flat cultivated floor of the valley begins to narrow, there rises the conspicuous mound known as 'Chighā-sabz' ('Green Hill') not far from the hamlet of Fāzilābād. Finds of worked flints and a few small painted sherds on the slope induced me to move my camp there and to devote the following day to a trial excavation on this mound. It rises to a height of 40 feet on ground gently sloping down to the river. At its foot

it measures 220 yards from north to south and about 88 yards across. A trial trench was cut down the south-east slope in nine sections, and a shorter one (x, xi) on the east slope. The digging, carried to an average depth of 6-7 feet, yielded throughout painted pottery fragments with geometrical designs mainly monochrome, distinctly simpler and less carefully executed than those at Kōzagarān (for specimens see 5-8, Pl. IX). One complete pot, 11 inches deep, found in xi, decorated with a painted lozenge pattern, contained at the bottom pieces of animal bones. In two pieces a red-brown band is added to the black pattern.

Of three plano-convex stone seals (2-4, IX) found in section vi, one shows two animals (rhinoceros ?) reversed, the other two grotesque running figures. [Similar seals found by Mr. Mallowan at Arpachiyeh are attributed to an early period, before 3000 B.C.] Besides several worked flints there was found also one obsidian blade. It may be noted that near the bottom end of the main trench stone foundations were reached which had probably carried a wall of mud bricks; but the size of these could not be determined.

Naurōz, the Persian New Year, on March 21st was now close upon us, and I knew that this, the greatest festival of the land, would stop labour, even in Lūristān, for several days on end. Further excavation at Chighā-sabz did not hold out much hope of finds of novel interest, and no mounds could be sighted in the remaining portion of the riverine plain further up the valley. So it was obviously desirable to utilize the interval of those days for the crossing to the left bank of the river in preparation for my planned move to the valleys northward.

Section III—TO RŪMISHKĀN AND TARHĀN

On March 20th we moved 6 miles down the valley to the point on the river known as Ambār-kōhneh. Tradition asserted it to have once served as the usual camping-place for those sent from the Pīsh-i-kōh side to secure the revenue of Saimareh, collected in kind and usually by force. The rest of the day was taken up with the crossing of the river, effected by means of two frail skin rafts. It was made more troublesome than usual by the steepness of the gypsum cliffs, which rise here abruptly above the edge of the water on the left bank and make the safe landing of loads difficult.

The following day's enforced halt on a verdant high terrace above the river-bed allowed time for the close examination of the ruined bridge known as *Pul-i-āb-burdeh*, 'the Bridge carried off by the Water'. I had heard of it before without having been able to locate it. I found it now situated about 2 miles below the crossing-place at a point where the river-bed flowing within an open trough turns from an east-south-east direction to south-south-east. On its right bank the river in a very sharp bend washes the very foot of an almost vertical wall of red alluvial clay. From its left bank there extends a grassy flat fully 440 yards wide to where the remnant of a first pier of the ruined bridge is met. The remains of the bridge left high and dry stretch for about 250 yards further over similar level ground to the foot of a low gypsum terrace. The remains of the bridge (Fig. 68), if far less imposing than those of the other ancient bridges previously described, still proved distinctly interesting from

an antiquarian and quasi-geographical point of view.

The remains actually visible above ground consist of eleven badly decayed piers and of a kind of ramp leading up to a twelfth pier which stood nearest to what was the left bank; but this is no longer distinguishable. It is probable also that there had been one or two more piers between pier I and a line of large blocks of cemented masonry visible towards the other end of the line of the bridge. All the piers have their bases and buttresses deeply covered with alluvium and show only broken, shapeless remnants of their cemented upper core. All the arches between them have fallen, but large blocks of concrete found lying in the spaces separating the piers VII, VIII, and X obviously belonged to the masonry of the high arches which once spanned the river flowing beneath what had been the northern portion of the bridge. That this was also the highest portion is shown by the height of these three piers (Fig. 68), which still rise to 20-21 feet, and by the greater gaps between them. The arches between piers I and VII were of much smaller span and served only to facilitate approach to the high northern arches. Owing to the far-advanced decay of all structural features and the complete disappearance of the facing masonry, no definite opinion could be formed without some excavation of the age when this bridge was originally built. So much, however, was clear that before the river had changed its course and left the bridge high and dry, it must have been exposed for a long time to the force of heavy floods.

Judging from the type of the strongly cemented masonry the bridge may well have dated from Sasanian times, but there was nothing to indicate when its destruc-

tion had started. It is hence of all the more interest that a notice preserved in the great geographical compilation of Yāqūt, composed about A.D. 1200, furnishes a useful chronological indication at least in one direction. It states, " between Ṣaimara and Tarhān is a wonderful and peculiar bridge, half as great as the bridge of Khāniqīn ; it is counted among the wonders ". [1] As Tarhān is the tract immediately to the north of this portion of the Saimareh valley and the one directly approached by the route I was about to follow after the crossing of the river, there can be no doubt that the bridge referred to in Yāqūt's notice is the Pul-i-āb-burdeh. The mention of that bridge being half as great as the bridge of Khāniqīn fully bears out this identification, since the latter according to another passage of Yāqūt counted twenty-four arches, just twice as many as are still traceable at the Pul-i-āb-burdeh.

If the bridge mentioned by Yāqūt was still in use at or about his time, as the quotation accessible to me seems to imply, we are furnished here with a useful gauge as to the time which the great change in the position of the bridge and of the river-bed has taken to come about. This change is a twofold one, and presents a distinct geographical interest. It has already been noted that a distance of about 440 yards now separates the left bank of the river from the remnant of the nearest pier at the southern end of the bridge. But it is equally noteworthy that this pier stands on ground which careful levelling showed to lie fully 40 feet higher than the water's edge at the time. On the other hand we have seen that the

[1] As quoted by Schwarz, *Iran im Mittelalter*, iv. p. 472, with a note, quoting also from Yāqūt, that the bridge at Khāniqīn had 24 arches, each of 20 cubits.

bases and buttresses of the ruined piers have been completely covered up by a very heavy deposit of alluvium, which even at a low estimate cannot be put at less than about 10 feet and which is probably much more. I have also had occasion to point out that the height of the piers at the northern end of the bridge and the greater span of the arches once resting upon them distinctly support the assumption of the bed of the river having lain there when the bridge was constructed.

From these observations I am led tentatively to conclude that the gradual accumulation of alluvium along the stretch crossed by the bridge, whether brought about by a succession of exceptional floods or else through the river's flow lower down having somehow become obstructed, forced the river to seek a fresh bed to the south. The fact that the piers towards the southern end show a more advanced state of decay, being in fact reduced to the condition of mere shapeless heaps of concrete, suggests that this shift to the south set in gradually on that side.

In the course of this process the high tongue of the clay plateau on the south which projects sharply into the *thalweg* and accounts for the previously noted marked bend of the river course, must have undergone progressive erosion. As the almost vertical face of the clay cliffs below that bend shows, the right bank of the river's present bed is still being undercut and washed away by the current. The friable lacustrine sediment composing the clay of the plateau to the south of the river is so soft that the result produced by the scouring effect of the current in lowering the bed 40 feet below the alluvial flat at the bridge can scarcely cause surprise. The change in the river-bed here

observed is of a character common enough wherever rivers wind their course across the sedimentary soil of deltaic plains. But what invests the change just described with a special quasi-chronological interest is that Yāqūt's notice of the bridge now in ruins makes it possible to form an approximate estimate of the rate at which the parallel processes of alluvial rise and fluvial erosion are at work in the Saimareh valley.

But the ruined bridge now deserted by the river was not the only witness of change in the latter's course during historical times. About 1½ miles above the bridge and within easy reach of our camp I was able to examine interesting remains of a ruined stronghold known as Qal'a-i-Shakar. It occupies the end of a narrow detached ridge which juts out from the gypsum plateau overlooking the *thalweg* on the north. A small plateau separated from the rest of the ridge by a saddle between two ravines measures about 140 yards from north to south and about half that distance across. It is girt all round by walls built with solid but much decayed concrete masonry. On three sides the walls are strengthened by rounded bastions.

On the south, where a portion of the plateau has fallen off, a kind of ravelin can be traced. On the south and south-east precipitous cliffs descend from the edge of the plateau to a winding bed, about 120 feet lower down, no longer reached by the river but holding stagnant brackish water gathered from the drainage of the gypsum slopes. An earlier course of the river was here clearly recognizable, and masonry remains close to it and a detached tower below suggested defences intended to guard the approach to the water. Within the circumvalla-

tion foundations of walls could be traced, but the absence of sherds pointed to the defensive position having been occupied only at times of emergency. As neither a well nor a cistern was traced, it was clear that it could have been held only while the river still flowed in the bed immediately at its foot. The masonry of the walls pointed to Sasanian or early Muhammadan times. Hence here, too, the change of the river course may be assigned to a later period.

For a week or so the weather in the Saimareh valley at elevations of about 2100 feet had been growing distinctly warmer. So I felt glad when, with my survey of its old remains completed, I could turn on March 22nd northward to the higher tract of Tarhān. A march of some 11 miles took us first over rolling downs of gypsum, decked with lush grass and spring flowers. It then led up through narrow steep ravines, cut by small brackish watercourses into the same omnipresent gypsum, to an open saddle of the steeply folded limestone range of Māleh, which, at an elevation of about 3700 feet, gives access to the plateau of Rūmishkān. This forms the southernmost portion of the Tarhān tract, and stretches as a fairly level plain for some 12 miles from south-east to north-west. Here, at an elevation of only a few hundred feet below the saddle, spring was just making its first appearance, and the sight of little red poppies and of anemones of many hues was very refreshing to the eye. Slight frost at night did not seem to affect this first burst of *primavera*.

M. de Morgan, when at the head of the 'Délégation en Perse', had already at the beginning of this century recorded the presence in Rūmishkān of some mounds with painted

pottery dating from early chalcolithic times. From a rapid visit which Dr. E. F. Schmidt, the distinguished American archaeologist, had paid me at Shīrāz in November when on his way from Rūmishkān to Persepolis, I knew that a party of his had been excavating for some time at the former place, and with good results. They had left off work there, it appeared, on the approach of winter, but intended to resume operations in the spring. I had reason to assume that the Chicago University's Oriental Institute had secured a definite concession from the Iranian Government for excavations in the Rūmishkān area, and felt sure that they would be carried out with systematic care.

So I did not feel surprised when a two-days' extensive survey of the whole valley plain in its western portion made from our camp near the mound of Chighā-sabz proved that this small mound and another called Chighā-'Alī Murād (or Kampālūn), showing on their surface remains of chalcolithic pottery such as de Morgan had noticed, had been the scene of thorough but still far from complete exploration on the part of the American excavators. The period of close on two months they were said to have spent over these labours had by no means exhausted the task. But, of course, their claim to continue them had to be duly respected, even though some painted pots brought to me by neighbouring cultivators from Chighā-sabz (21, Pl. IX) showed that, as usual in such cases, some " irresponsible digging " had been carried on since.

Among the few objects I was thus able to acquire, the three-legged large pot (10, Pl. XX; 16, XXVII) deserves special mention. Like it, the small pots (21, Pl. IX; 15, 17, 20, XXVII) and several painted sherds from the

same mound show in fabric and monochrome decoration close resemblance to the painted ware of Kōzagarān. Without wishing to anticipate the publication of Dr. Schmidt's report on his party's work, I may note that from these objects it is safe to infer the presence of burials under conditions similar to those at Kōzagarān at this site and probably also at the other.

Native digging had undoubtedly been carried on for years at a number of scattered burial sites of a much later period, such as are found near Mīr Wālī hamlet. Many graves marked by cairns as usual had been opened in search of ' treasure ', or with the equally inviting hope of securing saleable ' Lūristān bronzes '. Whether the latter expectation had ever been realized was not definitely to be gathered from my local enquiries. But it was made very probable by what examination showed at a small group of such *dambs*, to use the Balūchistān term, situated on a low ridge, known as Chighā-bardīna, about $2\frac{1}{2}$ miles south-east of Chighā-sabz, where more than a dozen burial-places marked by big stones were found to have been dug into.

At three of these, large slabs, laid at an angle of about 45°, were seen to form a roof (Fig. 69), and on clearing one of them which had been imperfectly searched we found a small damaged bronze blade (12, Pl. IX) which had evidently been overlooked or left behind as ' unsaleable '. Among ten other ' graves ' which were apparently intact, and which were examined by us, a few were found to contain pieces of broken plain pottery without bones; the rest held only earth. Evidently such cairns were laid out in memory of dead persons of whose previously exposed bodies bones had not been collected. It became clear

also that the Lūr method of searching by means of skewers for such graves as were covered in with a rough stone roof, and were likely to contain bronzes or other deposits of some value for sale, had been practised here with good effect.

Apart from a couple of small sites, Chighā-āmaleh and Qal'a-Murād, where the ceramic debris pointed to occupation in Muhammadan times, mention may be made of a very conspicuous mound known as *Chighā-bal*, situated near the south-eastern end of the plateau near Zākheh, the principal small settlement of Rūmishkān. It rises to about 60 feet, and owing to its dominating height its summit was converted into an entrenched position some ten years before. The mound was far too large for any useful trial excavation practicable within the time limits of my programme. But that its occupation dated back to chalcolithic times was sufficiently indicated by fragments of painted pottery picked up near the top in soil thrown out from trenches.

From a geographical point of view it was of special interest to me to note definite evidence of occupation in early prehistoric times at both ends of Rūmishkān. For this elevated valley holds running water nowhere on its surface, and the fertile soil at its bottom is cultivated only with the help of the winter rainfall. Water for the use of man and his domestic animals is obtained from wells. These conditions differ in a marked manner from what extensive observations in other parts of southern Īrān have shown me to have been the conditions of settled agricultural occupation in prehistoric times.[2] There evidence

[2] See *Archaeological Reconnaissances*, p. 136; *Tour in Gedrosia*, pp. 184, 189; *Tour in Ancient Persis*, p. 133.

of such occupation was to be found only where surface water is available for irrigating cultivable ground. It may hence be reasonably concluded that in prehistoric periods of settled life the amount of annual rainfall in Lūristān and the neighbouring mountainous tracts must have been distinctly larger, just as it now is, than in the regions farther east. This marked difference of climatic conditions is likely to have made itself felt in economic and cultural conditions all through historical times also.

On March 25th I moved across the range of limestone hills to the north-west which divide Rūmishkān from Tarhān proper. The latter plateau-like valley stretches more or less parallel to the former, but is longer. The range, appearing low by comparison with the elevation of the valleys on either side, was crossed by the pass of Khalīl-kushteh at 4100 feet. While descending in an open nullah there were to be seen numbers of *dambs*, and after a 9-miles march a much decayed old wall built with rough stones and stretching across the valley from side to side.

At the village of Safalā, the chief settlement of Tarhān, about 3300 feet above sea-level, where we camped, it was pleasant to find a lively little stream and some trees, the first seen since leaving Ahwāz. We found several mounds in the valley, though none of any height. But in spite of two strenuous reconnaissances no definite indication of prehistoric occupation was traced. This negative result is all the more curious as two small streams descending from the range to the north provide irrigation for some portion of the cultivated area.

The mound of *Chighā-bal*, about 1 mile north-west of the village, rising to 20 feet with fairly steep slopes, showed

a curiously regular shape measuring some 105 yards square at its foot. It suggested a fortified place of historical times, but no fosse could be seen, such as would have supplied the earth for raising it. A few *dambs*, dug up, could be seen on the slopes. What sherds could be found on the surface were all plain. A second mound known as *Chighā-pahan*, 'the Big Mound', about half a mile farther in the same direction, is extensive but of irregular shape, and measures fully 1800 yards in circumference at its foot. In different portions it rises from 15 feet to about 20 feet. Apart from some flint blades and chips and two small obsidian blades, only a few fragments of pottery, dressed with different tones of red, were picked up on the surface of the mound. Here, too, dug-up *dambs* were found on the slopes as well as Muhammadan graves.

Descending the valley for about 6 miles near to where a small stream debouches from the side valley of Dumbe-rūsān in the north, I found, in close proximity, a group of small mounds partly tilled for opium. At one of them some flint flakes and a fragment from a perforated vessel were picked up, with a few coarsely painted fragments of uncertain type. At another a vaulted grave had been dug up, which evidently had held a quantity of funeral furniture. Among plentiful fragments from large pots there were several showing bold cable and other mouldings, such as I found often associated with graves that had furnished 'Lūristān bronzes' (14, 17, 19, Pl. IX).

At a third and somewhat larger mound, known as Bāwa Gird 'Alī, I had two trial trenches opened on March 27th. The result was disappointing, as in spite of the digging being carried down 5 feet, throughout in soft

earth, only coarse pottery was found besides some glazed pieces. A round hand-mill of stone and a bronze spatula found at a depth of only 1 foot cannot claim great antiquity. The mound looked partly a natural formation, which may account for its top showing some *dambs* side by side with what seemed evidence of occupation in Muhammadan times.

There could be no doubt about the people of Tarhān having diligently searched all graves likely to yield bronzes. The proceeds must have found their way years ago to antique-dealers in Kirmānshāh ; for in spite of the efforts of the helpful local headman and the offer of good prices, only three bronze pieces were brought for sale. Two of them are double-edged daggers, a little over 11 inches long ; the third a bronze adze or axe (11, Pl. IX) with chased ornamentation on the top, socket and sides, and ribbing on the socket. As regards the find place, no reliable information was forthcoming, Chighā-pahan being mentioned—probably at random.

Section iv—TO RŪDBĀR AND SHĪRWĀN

Before proceeding further towards the tracts to the north, where this destructive search for Lūristān bronzes was known to have started, two considerations made me turn again for a few days to the south-west. On the one hand I wished to complete our mapping of the course of the Saimareh, where it had so far remained unsurveyed, by visiting the tract of Rūdbār. There the river makes its great bend northward to its head-waters on the plateaus of ancient Media. Both above and below Rūdbār the

river has cut its tortuous way for a considerable distance through narrow winding gorges, quite impassable even on foot during the greater part of the year. On the other hand I wanted to visit the ruins which had been reported to Sir Henry Rawlinson as the ' town of Rūdbār ', and to gain at least a glimpse of the valley of Shīrwān, of some importance since ancient times. There I should find myself once more on ground which had seen my revered old patron pass just a hundred years ago, and where he had noted a site with ruins of distinct interest.

So on March 28th we descended from the Tarhān valley to the south-west through the narrow gorge of the Tang-i-Siāb. Precipitous cliffs rise more than 1000 feet above its bottom, which is encumbered with fallen rock. High up in these cliffs are a series of caves known as Haft-shikaft. From the mouth of the gorge the path led first across the small partially cultivated plateau of Bākhala, and then to a wide stretch of those rounded gypsum hills and downs which rise high above the left bank of the winding Saimareh throughout these parts (Fig. 70). With its constant ups and downs the route involved a long and rather tiring march before we reached the narrow stretch of cultivated ground known as Rūdbār at Cham-Siāb by the left bank of the river. But we were favoured by a sky of perfect clearness, and glorious views were enjoyed from heights up to 4000 feet across the great valley and along the long wall-like line of the Kabīr-kōh, rising on its glittering snow-covered crest to peaks of more than 9000 feet.

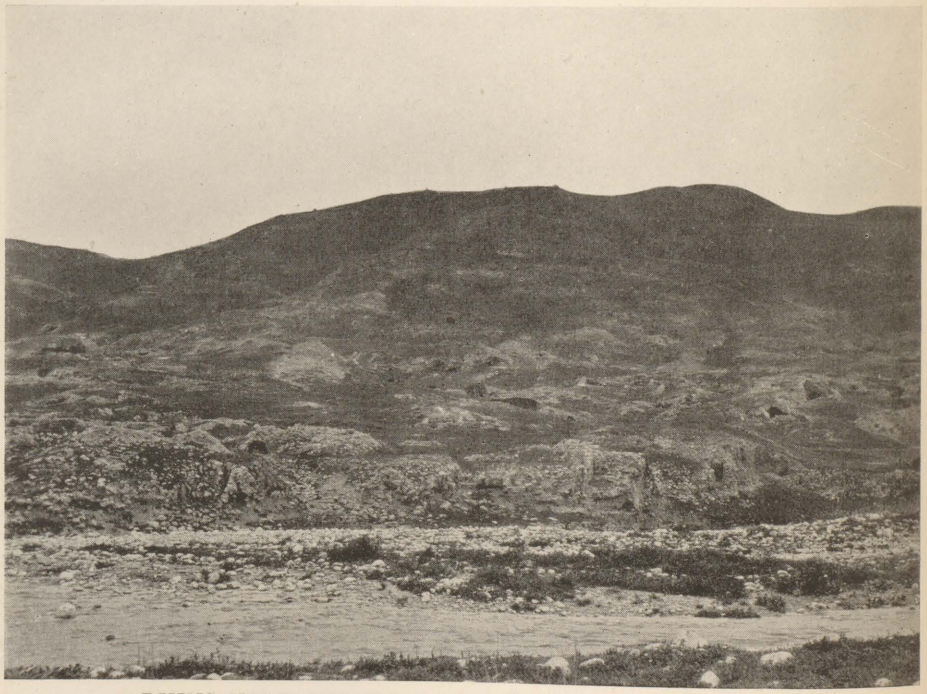
Next day a short and easy march brought me from Cham-Siāb to Sar-gandāb, the main hamlet of Rūdbār,



70. VIEW UP SAIMAREH VALLEY FROM ABOVE RŪDBĀR



71. VIEW UP SAIMAREH RIVER FROM ZĀLĪ, TOWARDS SHĪRWĀN



72. RUINS NEAR MIDDLE OF SARĀW-KALĀN SITE, SHĪRWĀN, SEEN FROM SOUTH-EAST

A short distance before reaching its reed huts the path led along the foot of steep cliffs where a number of hot sulphur springs issue. They combine at first to form a beautiful bluish pool of limpid water, and lower down feed a marshy streamlet. These hot springs make it appear probable that Arbujān, which Arab writers mention as the second town of Māsabadhān and as holding three hot springs, corresponds to Sar-gandāb ; for Māsabadhān has long ago been identified with the Shīrwān tract closely adjoining Rūdbār, and I could not learn of any other hot springs there but those at Sar-gandāb.[1] The description quoted from Mis'ar ibn Muhalhil speaks of the water of the springs flowing towards Bendenījain, a locality placed by Yāqūt within Mihrijān-kūdhak, *i.e.* Saimareh, and notes that the town had no ancient remains.

This remark was borne out by the fact that the only ruins I could find in Rūdbār were some walls built with rough stones and mortar on a small mound to the north of the hamlet ; two rooms indicated by such walls had been recently made habitable by the addition of mud walls. Neither the ruined walls nor the burnt bricks, dug up around and utilized, indicated occupation necessarily older than Mis'ar ibn Muhalhil's time. Wall foundations of an uncertain age, about 24 yards square, were traceable on a rocky hillock about 1 mile to the north-north-west of the hamlet.

Having thus satisfied myself that the ' Shahr-i-Rūdbār ',

[1] See Schwarz, *Iran im Mittelalter*, iv. p. 467 sq. The notice there quoted from Mas'ūdī speaks of the hot springs of *Tūmān*, and this seems to support the assumption of Schwarz that the reference made by Ibn al Faqīh to the hot spring of *Tarmān* relates to the same ; see *ibid.* p. 468, also for the possible derivation of Tarmān from the Greek *thermai*.

with its "ruins of a very considerable town, similar in appearance to Sīrwān", reported to Rawlinson by imaginative Lūrs,[2] had but little of antiquarian interest to offer, I was all the more anxious to visit Shīrwān (as the name is now locally heard) without loss of time. In order to reach the valley, we had first to get across the river to the right bank; and this cost hours, even though my party was for this visit confined to the Surveyor, two gendarmes and a follower carrying camera and surveying instruments. The skins to form the raft were ordinarily in use for conveying water from the river to the several households. The women presiding over these would naturally first wish to fill their few pans for the day's needs before giving the skins to be inflated. Nor did they see any reason for exposing themselves in their flimsy cotton garments, bright of colour but more often than not worn into sad rags, to the cold air of the morning.

It took time to examine the skins and to tie up or patch their many small holes. When at last the ten goat skins were considered 'seaworthy' and the ferrying started, it took time to get the raft brought back each time over the distance to which the very swift current of the river in flood had carried it downstream. The best point about the ferrying at Rūdbār was that the flimsy craft was guided and propelled from bank to bank by a sturdy youth, quite athletic to look at when stripped, who was holding on and swimming behind it. I had risen by 5.30 A.M., but it was not until four hours later that our small party was safely across with mules and saddles complete.

The way to Shīrwān led for the first 7 miles across end-

[2] See 'March from Zōhāb to Khūzistān', *J.R.G.S.*, ix. (1839) p. 56 sq.

less gypsum hillocks. The deep-cut river-bed passed out of view altogether; only glimpses could be caught from higher ground of the formidable twisting gorge of Sāzaban to the north from which it debouches. Then at last the fine open valley of the Āb-i-Shīrwān came into view, stretching away fully 10 miles to the north-west, the green expanse of its fields of wheat and opium-bearing poppies streaked by glistening canals of life-giving water.

It was a sight bearing out, if only from a distance, the description given by all the early Arab geographers of the fertility and natural amenities of Shīrwān, counted by them as part of the district of Māsabadhān, the classical Massabatikē.[3] As our way led along the foot of the hillocks edging the valley plain from the south-west it allowed us to overlook this fertile scene from above the right bank of the main stream. Here and there the eye was refreshed by a view of trees growing in small clumps on the slopes, mostly oaks, which somehow had escaped the omnivorous goats and the equally destructive Lūrs.

Still there was much to impress one with the decay and ruin which this naturally favoured tract had undergone since early medieval times. What permanent habitations were to be seen above the tilled bottom of the valley were nothing better than mud hovels built to official order in rows during the last few years. Elsewhere in little nooks of the valley reed huts of a primitive type continue to shelter the tenants. The whole tract had in recent years been acquired for the private estate of the ruler of the land from those who before exercised but a precarious

[3] See Schwarz, *Iran im Mittelalter*, pp. 464 sqq.

hold over its soil. For the cultivating tenants from whom a major portion of the produce is levied, the essential feature of the change is, no doubt, that peace is now assured and that the evils directly attending the feuds of the landlords and the exactions of their followers have ceased.

It was an encouraging sight to note in a few places little patches of ground laid out where pomegranate seedlings together with willows had just been planted along the channels which are to bring them water. But it may take a long time yet before Shīrwān can boast again of those date-palm groves and those orchards holding all the fruits of " both the warm and cold regions " for the combination of which the old Arab writers, after their wont, specially praise this ground.

Riding along this smiling landscape we had a great massif of the Mullagawān range always in full view as a background. Its double-peaked summit rising to a height of over 8500 feet was snow-covered at the time ; and it was said to retain some snow on its northern face even during the summer, as already noted by Rawlinson of Mānisht-kōh of about the same height farther away to the north-west. On the flank of Mānisht-kōh to the south lies Deh-bālā, once the summer residence of the powerful Wālīs of the Pusht-i-kōh, and now the headquarters of the whole Pusht-i-kōh. It was the region to which, according to my sanctioned programme, I hoped to devote the autumn. From where the valley begins to narrow and to turn as if to approach the massif, there rises a steep conical hillock to some 60 feet above the plain. Though lying in the continuation of the rocky spur which overlooks the site of Sarāw-kalān or Shīrwān, it must be in

the main of artificial origin. It bears on its top the remains of a ruined fort about 160 yards in circumference, perhaps of Sasanian origin. The walls, built with rough stones and very hard mortar, have decayed almost to the level of the ground. Among the sherds which could be found among the abundant vegetation covering the slopes only plain pottery was represented.

From the top of the mound the ruins of the town of *Sīrwān*, as the Arab geographers call it, and now known as Sarāw-kalān, could be sighted. So we hastened towards it along the fine stream issuing from the narrow valley in which it is situated. Clouds had gathered along the Kabīr-kōh threatening rain. A 2-mile brisk ride along the gypsum cliffs lining the right bank brought us opposite to the centre of the ruined town. Its appearance proved just the same as Sir Henry Rawlinson's diary has graphically described it.[4] Over the lower slopes of a spur overlooking the valley there stretch the closely packed remains of ruined dwellings, all vaulted (Fig. 72). These extend for nearly 1 mile along the left bank of the wide stream-bed down from the rocky upper end of the nullah which holds it. Close below this end gather the large springs which feed the Āb-i-Shīrwān and account for the site of the ruined town.[5] Among the ruins were to be seen, in row upon row, the openings of vaulted rooms and passages —all that remains exposed among the debris of houses built in tiers with rough stones and hard mortar. Owing to the accumulation of broken masonry from the fallen walls

[4] See ' March from Zōhāb to Khūzistān ', *J.R.G.S.*, ix. (1839) p. 52 sq.

[5] The appearance of these springs within the town is specially mentioned by Belādsorī ; see Schwarz, *Iran im Mittelalter*, iv. p. 466, note 7.

these openings look just like the mouths of small caves.

The construction of the vaulted rooms and passages, often quite narrow, was familiar to me from the many dwellings of the same type seen before at Manjanik, Dar-i-shahr and elsewhere. The shape of the vault sections seemed throughout that typical of Sasanian structures and of those of the early Muhammadan period, an open ogee closely approaching a semicircle. A large number of these ruined quarters are still inhabited. In the case of others, details of plan would be obtainable only by laborious clearing of interiors completely filled with debris, and, as the site has continued to be occupied to the present day, not likely to retain anything that could have been of use to later inhabitants. So there was nothing among these ruins to tempt trial excavations within such time as I could spare.

My attention was naturally attracted by a large structure in the centre of the site near the bank of the stream, which in its completely collapsed state presented the appearance of a mound. It was without doubt the same which had been pointed out to Rawlinson as the tomb of King Anūshīrwān. But the present inhabitants seemed to know nothing of the legends which were attached to this ruin at the time of his visit, or the fanciful story of the man who had penetrated one of the narrow openings still visible and lost his way in a labyrinth of dark passages, and thus had miserably perished. Such openings as I was able to enter at different points all led into barrel-vaulted passages soon found to be blocked by masses of fallen masonry. Possibly a great earthquake, such as is attested by Ṭabari in A.D. 871 at Dar-i-shahr, may have helped

to shake the large structure down into the compact mass it now presents.[6]

The question as to how the interior, enclosed as it apparently was by a series of vaulted passages, could have been lighted, might have been puzzling. Fortunately the plan of the far better preserved mansion surveyed before at Chahār-deh on the way to Dō-gumbadhān, with its high-domed hall in the centre, seemed to offer a complete explanation.[7] This belief was confirmed by what a deep cutting made into one side of the mound had exposed. This excavation was said to have been carried on for more than a month some years before on behalf of two Jewish antique-dealers from Kirmānshāh who had secured an official licence for the purpose from Tehrān. Their object was presumed to have been to recover the treasure believed to lie buried in the supposed royal tomb. The effort had not been rewarded by the hoped for discovery. But the laborious cutting had been carried far enough towards the centre to disclose the very thick wall of what I suppose was a great square hall, now filled by the huge mass of the collapsed dome once rising above it. There were, I thought, indications also of this hall having been surrounded at an upper floor, probably at the height of the squinches, by a narrow clerestory passage such as can be seen under the dome of one of the great halls in the Sasanian palace at Fīrūzābād.

I had seen enough to convince me that the ruined structure contained the remains of a large Sasanian

[6] See above, p. 206 sq.; also Schwarz, *l.c.*, iv. p. 465, for a notice of Mas'ūdī, mentioning Māsabadhān as a region which has suffered from frequent and destructive earthquakes.

[7] See above, pp. 65 sqq.

mansion, and also that an attempt to determine exactly its structural features would involve a disproportionate sacrifice of time, labour and money. I had used the still available daylight for taking photographs of the site, and when the inspection of the large structure was finished it was high time to regain our camp, 14 miles away. It was just as well that we reached the shelter of our tents by 9.30 that evening, as heavy rain descended during the night. As repeated downpours continued during the next two days, I had reluctantly to content myself with the hope of returning to old *Shīrwān* for another and longer visit from the side of Deh-bālā in the autumn.

CHAPTER V

THROUGH THE MOUNTAINS OF PÍSH-I-KŌH

Section i—REMAINS OF HULAILĀN

On March 31st we recrossed the Saimareh river in Rūdbār in order to gain the western extremity of Tarhān and thence to make our way northwards to Hulailān. It was the last tract on the river which I wished to explore. But to gain it direct from Rūdbār was impossible; for the gorges, as yet unsurveyed, in which the river has cut its winding passage through the limestone range bounding Tarhān on the south were declared to be quite impassable for laden animals, and at this time of flood even for men. In spite of the rain descending while the recrossing proceeded we managed to push up 3 miles from Sar-gandāb to the hamlet of Zālī, whence the ascent to the Siāb range was to be made.

Zālī was reached in pouring rain, and for the sake of the escort I felt glad that the steep spur above the reed huts of the hamlet offered just room enough for our tents. Thus the men of the escort could seek better shelter as 'guests' of the hamlet than the two little *tentes d'abri* available could have offered in the inclement weather, which continued with violent gales next day also. A move in such weather proved impracticable at daybreak. When at last the rain ceased in the evening, a delightfully

picturesque view offered up the river, winding its tortuous course below, a band of silver between terraces of intense green, right up to the mouth of the Sāzaban gorge (Fig. 71).

The next day broke with a brilliantly clear sky. The steep ascent to the plateau bordering the Siāb range at an elevation of about 4000 feet proved no serious task for our hardy mules, which had faced worse climbs in the Kohgalu hills, and once the plateau was gained, the scenery was as refreshing as the cool air. For the first time we passed over ground covered with those fine oak trees for which the higher ranges of Lūristān are famous. The gently sloping plateau, with scenery quite park-like, allowed us to gain without any fatigue a saddle of the hill chain which forms the outer rim of the range at an elevation of about 4600 feet. But of water there was none. Beyond the saddle lay before us the shallow trough of the Weskur valley. When we had descended to it our morose Lūr guide could point only to a tiny pool of muddy water by which to camp. The main range rising before us, with bare rock walls some 2000 feet higher, looked forbidding and was declared to be impracticable for laden animals. So, reluctantly, we had to turn south-east in order to gain the Tang-i-Siāb gorge again along the slope of the range. This more than doubled the day's march before the first drinkable water was reached at the grazing camp of Gar-khushāb. The little streamlet met in the maze of gypsum hillocks on descending from the head of the Weskur valley was salt, as usual on such ground.

On April 3rd we regained the wide valley forming the western portion of Tarhān, and after a march of 21 miles arrived close to its head at the small village called Khāneh-

Samkhān after the name of its owner. Broad and cultivated as the valley floor is, only a few settled homesteads were met on the way. The small cluster of roughly built hovels around the old chief's modest dwelling offered a striking contrast to the extent of walled-up terraces on the spur above, all covered with the debris of completely decayed dwellings built with rough stones and hard lime plaster. These shapeless ruins, dating perhaps from Sasanian times, did not attract excavation. They offered antiquarian interest all the same, having regard to the extremely scanty supply of water now available from two small springs, barely sufficient for the present hamlet.

It was pathetic to look at the few fruit trees which Samkhān had tried to save from drying up in his little orchard. A *qanāt* such as was said to have existed here at one time would allow the place to regain some prosperity. But where was the old chief to raise the needful money? He had been implicated in a local rising before the present regime had finally established its hold on Lūristān, and whatever support he could exact before from his nomadic tribesmen had vanished. Anyhow, he might consider himself lucky in having escaped a prisoner's life at Tehrān, the fate of others in his position.

The whole area of Tarhān and that adjoining this portion of the course of the Saimareh had remained so far practically unsurveyed. A day's halt at Samkhān's place was needed to enable the Surveyor to carry his plane-table survey all along the commanding crest of the steep range to the south, which afforded excellent survey stations. Thus the deep impassable gorges in which the river had cut its winding way through the mountains, first

west, then south-west before its great bend along the foot of the Kabīr-kōh, could be correctly located, even though the river itself, flowing in a succession of cañons remained invisible from those heights.

Access to ground where the river-bed is approachable was secured when on April 5th we started on the march to Hulailān. A steep descent amidst winding ravines cut into the gypsum, where traces of an old track could be distinguished in places, brought us after about 3 miles to a succession of grassy plateaus fringed by a profusion of oaks and wild pistachio trees and covered with a carpet of dainty spring flowers in a great variety of brilliant hues. It was this luxuriance of delicate, vividly tinted flowers which had before made me realize how true to nature their presentation in Persian miniature painting of the best period was, and also how closely their beauty was reflected in Pre-Raphaelite art.

As we passed over the last of these plateaus, known as Sefaleh and showing traces of former cultivation, there came into view below us the ruins of an ancient bridge reported to me before. It spans the river opposite to a precipitous ridge (Fig. 75) where the bed is divided by rocky ledges cropping up in the middle, thus affording a firm foundation for piers. The river, though running in flood, was at the time confined to the western branch of the bed, only some 25 yards across and on either side rock-bound. The eastern branch, somewhat narrower, had silted up to such an extent that of the big arch which once must have spanned it, only scanty remains emerged from the mud bank filling most of the bed. At times of exceptionally high floods this bed, too, is reached by the river. But



73. RUINED BRIDGE ACROSS SAIMAREH AT SEFALEH, HULAILĀN



74. CROSSING OF SAIMAREH RIVER ON SKIN RAFT, HULAILĀN



75. RUINED BRIDGE ACROSS SAIMAREH AT SEFALEH, HULAILĀN

fortunately we found it dry, except for some large reed-fringed pools, and we could thus closely examine the three piers rising between the two beds (Fig. 73).

Solidly built on ledges of rock, these three piers still rise more or less intact with two arches between them. The pointed shape of the latter clearly shows that the bridge dates from early Muhammadan times, comparison with dated bridges indicating the 9th-11th century as the approximate period.[1] The construction of the piers proved remarkably massive, their bases up to a height of some 14 feet being faced with properly dressed slabs of limestone measuring up to 3 feet 8 inches in length and 1 foot 10 inches in height. The interior masonry of the piers and arches consists of concrete with rough stones and rubble. The distance between the extant piers is 33 feet. The middle one, the best preserved, has a width of 51 feet, including the semicircular buttresses, and a thickness of 24 feet. The buttresses project 15 feet in length and 14½ feet across. The estimated height of the two arches is about 45 feet, including 4-5 feet for the masonry above the point of the arches. The width of the road carried by them seemed about 21 feet, the same as that of the piers apart from the buttresses. The large slabs facing the bases are set in cement in seven regular courses up to the springing of the arches. The haunches of the arches seem to be constructed in horizontal courses backed by the usual rubble filling. Higher up, the masonry facing of the piers consists of smaller cut stones, mostly square, set in concrete. Under the arches remains of a plaster coating are visible in places, also holes for fixing a wooden scaffolding.

[1] See below, pp. 267 sqq., for the bridges of Sumāq and Kalhūr.

Most of the large slabs seen in the pier bases bear mason's marks, such as we found also on other similar-sized blocks lying along the rocky ledge bearing the pier nearest the water. The marks usually consist of a pair of small holes, cut either in a horizontal or diagonal line. Engraved lines also occur, either vertical or as hooks formed by right angles. It was interesting to note that several of the facing blocks, ready cut but left unused, showed tapering tail-ends where they were meant to be set in the concrete of the interior masonry. Exactly the same method of shaping facing stones of walls was used by masons of Roman times in Syria, as still seen, *e.g.*, in structures of the *Limes*.[2] This, like other constructive details in bridges dating from Sasanian or early Muhammadan times, may be an indication of the influence, known otherwise also, which Roman architectural models exercised on Persian soil. We may have, perhaps, some reflexion of this in the later tradition which ascribes the construction of certain famous bridges in Khūzistān to the labours of Romans captured at Shāpūr the First's victory over the Emperor Valerian.[3]

The arch which stood nearest to the eastern bank of the river-bed, and once spanned the river branch on that side, has completely disappeared, along with the eastern face of the pier which bore it on the west. Three masses of cemented masonry project from the silted bed; the rest of the debris from the fallen arch lies hidden in the

[2] See, *e.g.*, Poidebard, *La Trace de Rome dans le désert de Syrie*, ii. Pls. XXVIII, XLI.

[3] Cf., *e.g.*, Curzon, *Persia*, ii. p. 376 sq.; Rawlinson, *J.R.G.S.*, ix. p. 75, regarding the famous Pul-i-Kaisar at Shustar; also above, p. 182, regarding the Pul-i-Dukhtar, Jaidār.

mud. It seems possible that it was this fallen debris which caused a heavy accumulation of silt and thereby ultimately closed this bed to the flow of water except during very heavy floods. The total absence of remains of the pier which had carried this arch on the left bank is puzzling. I can only suppose that much of it had fallen and was washed away by floods, and the rest covered up by detritus from the plateau above.

On the opposite (right) bank of the main bed there can be seen the remains of a pier at a height of 60-70 feet above the river, with foundations built into crevices of a precipitous cliff rising much higher (Fig. 75). Judging from the height of the roadway on the arches still standing on the left bank, it seems difficult to believe that the bridge was carried across the main bed by a single arch. But of an intermediate pier built within this bed no indication was to be seen. The path or causeway which must have served for an approach to the pier on the western bank appeared to have crumbled away. But fallen blocks of stone which probably belonged to such an approach were seen lying close to the river-bank some distance below the point where the bridge stood.

There still remains to be mentioned a curious mass of cemented coarse masonry lying on the rock some 6 feet from the lower buttress of the pier still standing nearest to the left bank of the main river-bed. It is easily distinguished from the masonry of the bridge and cannot have belonged to the latter. It might possibly be supposed to date from a later attempt to replace the fallen arch by another, perhaps on a lower level; but nothing corresponding to such a replacement could be recognized on the right bank.

It is impossible to make sure now whether the ruined bridge was meant to serve traffic passing from the side of Khūzistān through Tarhān and Hulailān towards Kirmānshāh, or whether it was primarily meant to facilitate communication between the two parts of the Hulailān tract on either side of the river. But when subsequently at work in the riverine basin of Hulailān I had ample occasion to regret the absence of such a means of communication. The close survey of the ruined bridge had cost time; so I felt glad that only 2 miles higher a small flower-decked terrace offered a pleasant spot for a night's halt. In front of our camp at Sarneh there rose with picturesque abruptness the high serrated spur which closes the southern end of the Hulailān basin and stands on guard as it were over the entrance to the river's winding gorges. Within a quarter of a mile of our camp we found a large spring, somewhat salty, which had once fed canals carrying water to the slopes above the terrace we occupied, and probably also to others lower down. Nowadays the only purpose served by its gushing water is to work a primitive mill, to which the people of western Tarhān resort with their produce.

On April 6th an easy march of some 10 miles brought us along grassy terraces by the river and then over low hill chains to Daudawar, the only hamlet of any size by the left bank of the river, owned by Shukrullah Khān. From the hills crossed we had a full view over the valley trough of Hulailān. Encircled by hills rising on all sides to heights between 4000 and 5000 feet, this naturally fertile and easily irrigated plain extends some 10 miles in length and close on 6 miles across where widest. Situated

at an average height of some 3000 feet, most of the plain had served until recent years mainly as a winter grazing-ground for Lūr tribes from Delfān, the rest being sparsely cultivated under the disputed ownership of the family of the Pusht-i-kōh Wālīs. The greatest portion of the cultivable ground lies on the right bank of the river, whence ready access can be gained to the great valley of Mahī-dasht and other settled tracts of the Kirmānshāh province. Hulailān had, all the same, remained so far unsurveyed.

Apart from this, I had been led to turn to Hulailān by the thought that this large open valley tract was likely to have seen settled life at an early period. In addition there was information contained in M. Godard's fine volume, *Les Bronzes du Louristan*, suggesting that many of the antiques usually called 'Lūristān bronzes', which during the last ten years had passed through dealers of Kirmānshāh and Hamadān into private and public collections, had been gathered from ancient burial-places in Hulailān. It is true that Hulailān lay rather west of the line I wished to follow on my way through Lūristān, but the increasing heat made it advisable to visit first what remained of the lower ground traversed by the Saimareh river (or Gamāsh-āb, as it is known higher up). An additional reason for visiting this area was that I should be able to fetch mails again through a fleet-footed 'qāsid' sent to the Kirmānshāh Consulate.

The first day's reconnaissance ride took me for some 10 miles up the smaller eastern part of the tract. It revealed no debris mounds marking ancient settlements, but proved that the indication gathered as to burial-places that had yielded Lūristān bronzes was correct. Less than

2 miles above our camp there rose the conspicuous new shrine marking the supposed resting-place of Imām-zādeh Shāh-zādeh Muḥammad, a much frequented place of pilgrimage for Lūrs, with a cluster of Saiyids' dwellings.

Below this a considerable number of open graves originally marked by large stones on the surface showed where a thorough search for antiques had been carried on years before. It was attributed to Lūrs from the side of Harsīn, but there could be little doubt that Hulailān people had soon learned how to share in the exploitation. A spring below the shrine accounted for the early occupation of the site and consequently for the ancient burial-place farther down. The high trees around the spring seemed to offer a sanctuary for large birds, which gather there in great numbers in the evening and are never disturbed. A similar observation had been made by me in Upper Swāt near the ruined Stūpa of Manglawar, an ancient Buddhist sanctuary recorded by the great Chinese pilgrim Hsüan-tsang.[4] Some form of continuity of local worship may account in both places for the protection offered to birds.

An ancient burial-place of much greater extent was reached some 4 miles higher up, above the left bank of the river, at a place known as Mūrakūn. There a ridge, fairly flat on top and about 150 yards wide, stretches for some 600 yards between two small nullahs towards a bend of the river. At its end it rises to a height of about 60 feet. Most of the top is covered with the debris of decayed walls from dwellings built with rough stones and mud. All along the slopes, but particularly on the eastern side, there were to be seen opened graves, all with the large stones which

[4] See *On Alexander's Track to the Indus*, p. 80.

had marked them on the surface lying close by as upheaved. Local information always asserted that these operations had been carried on only by Kākawand parties from the side of Harsīn, who used to claim Hulailān as a winter grazing-ground. But the details gradually elicited during my stay in this area about the method which those searchers used to follow in their work made it highly probable that the local people, too, had soon learned to emulate their example.

The method used was the same as that of which M. Godard had secured correct information in 1931.[5] Graves likely to yield metal objects would be tested systematically by probing the ground with iron skewers. Wherever the skewers struck stones at a depth of only a couple of feet all round the large stones on the surface, properly made graves roofed over with rough slabs at a slant could be readily located. From experience rapidly acquired in these operations and soon widely spread among the Lūrs, they learned that articles of saleable value could be looked for only in such graves. Before long it became clear to me also that the chance of any of these having escaped notice from people ever keen on plunder as Lūrs are by nature and tradition, was bound to be scanty.

The dwellings on the top of the ridge, roughly built as they looked, seemed to have contained rooms of some size. Remains of walls enclosing a square of 16 yards and rectangles still larger may mark courtyards. In places the line of walls is closely approached by graves. This first inspection of such a large burial-ground yielded a useful

[5] See *Les Bronzes du Louristan*, p. 100 sq.

criterion for the dating of the bronze objects gathered from these and similar graves. Among the earth-heaps near the dug-up graves there were to be found plenty of sherds, evidently from vessels that had belonged to the burial deposits and had been broken in the course of the search. Most of the fragments were of plain, often coarse, ware, difficult to classify. But besides there were plenty of pieces from roughly painted pottery, such as the specimen with a simple geometrical polychrome pattern, 13, Pl. IX, or relief-decorated ware with cable ornament, like 15, Pl. IX.

The very abundance of all these potsherds, often of fairly large size, not only at the graves but also among the walls of the decayed habitations, spoke against the assumption that those familiar Lūristān bronzes were possessions of a population wholly nomadic and hence unlikely to have used pottery to any extent. The subsequent discovery of closely corresponding ceramic types at the Hulailān mound to be presently mentioned thus helps to throw light on the character of the population to which the graves which have yielded those bronzes of uncertain provenance must be attributed. Thus certain useful *indicia* can be gathered which the examination of the bronzes alone, however carefully done, cannot yield.

A second day's reconnaissance ride on April 8th took me across the river to the western and major portion of the Hulailān trough. The crossing of the river, steadily rising in flood with the melting of the snows on the high mountains far away to the north, proved a troublesome business. The width of the river, some 180 yards across at the time, and the strength of the current on its way to the cataracts of the gorges below, caused much delay over

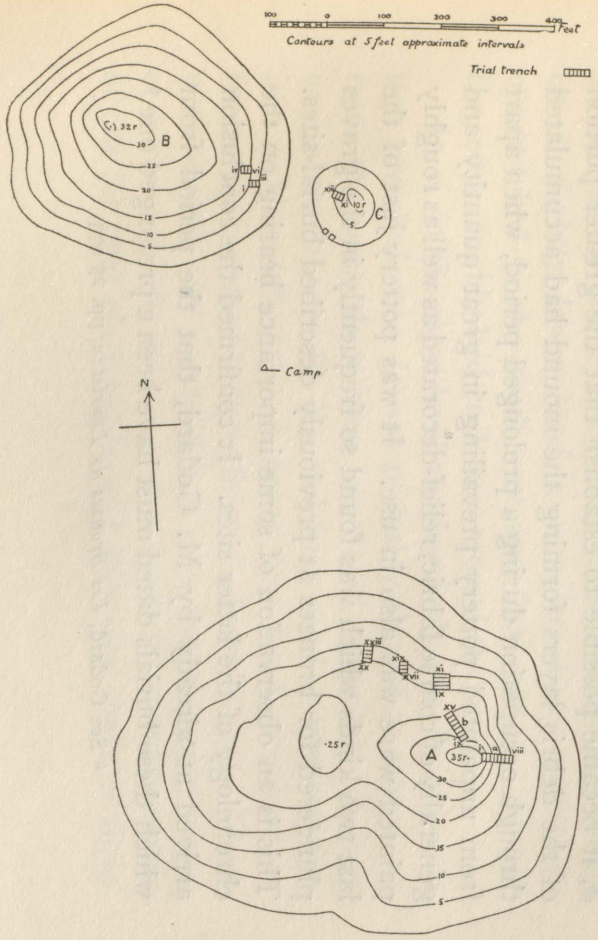
the ferrying with the single raft for which alone goat-skins could be secured, and that in spite of the skill of the three sturdy Lūrs who swam on skins behind the raft and guided it (Fig. 74). On the previous evening I had sighted from the height of the Imām-zāda a large mound to the south-west. When reached after a march of 3 miles across irrigated and well-cultivated ground, it proved to be situated within a mile of the village of Ḥusain ʿAlī Khān, a grandson of the last Wālī of Pusht-i-kōh and the principal landowner of Hulailān, and to be known as Kazābād. As fragments of painted and relief-decorated pottery as well as worked flints could be picked up on the slopes, the mound recommended itself for trial excavation.

Moving thence across irrigated ground to the north-north-east we came after 1½ miles to a debris-strewn site significantly known by the name of *Mulkī-shahr*. Here, among much decayed walls, glazed pottery of Muhammadan times was to be found. A small mound showed vaulted passages built with walls of rough stones and mortar and locally known as 'Hammām'—perhaps rightly. The site is probably medieval. Turning thence eastwards we crossed a stream of considerable volume which provides irrigation for the greatest portion of the cultivated area on the river's right bank. Following one of the canals fed by it and passing a ruined fort of no great age, we arrived after another 3 miles at the two villages of Kalimaya situated close together and forming the chief settlement of Hulailān. A small but conspicuous mound near by, rising to some 20 feet within completely decayed mud walls and a fosse outside the latter, could be recognized as obviously artificial. A small mound about 1 mile to the

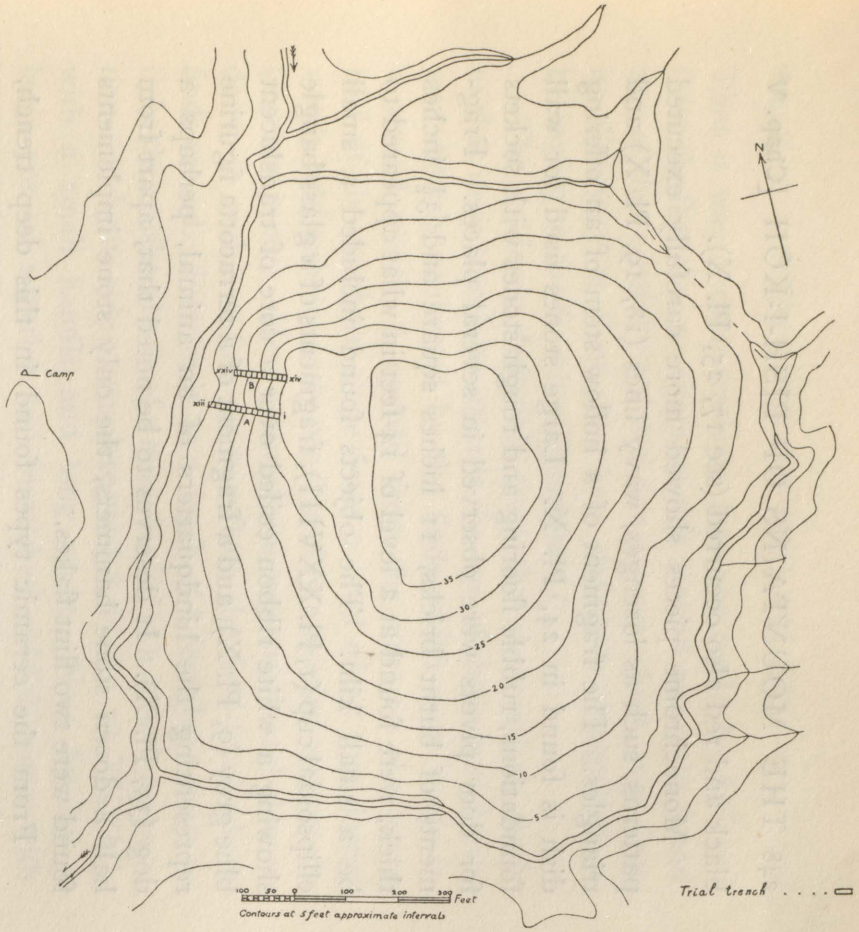
south-east showed only Muhammadan potsherds on the surface.

As a result of this preliminary inspection I moved our camp on April 9th across the river to the Kazābād mounds, and was able on the following morning to start trial excavations with an adequate number of men easily secured with Ḥusain ʿAlī Khān's help. Continued for six days they yielded distinctly useful results bearing upon the period of Kassite occupation of Lūristān, to which the grave finds of bronzes are justly ascribed. The largest of the three mounds (Plan 16) to which most of the work was devoted measures about 260 yards from south-east to north-west and about 200 yards from north-east to south-west. The eastern portion of the mound rises to 35 feet above the surrounding fertile flat ground, and the one to the west to about 25 feet. A long trench was opened on the steep eastern side of the mound in eight sections with a width of 6 feet on the levels of 30 to 15 feet and subsequently at its upper end carried down to a depth of 17 feet from the surface.

The depth reached here permitted me to determine a distinct stratification of the pottery remains brought to light. In the top layers down to about 20 feet above field-level were found, apart from plain ware, mostly buff, and often with a white slip, fragments showing annular ribbing, ' keels ' and incised decoration (for specimens see 18, 20, 23, 29, Pl. X). Such painted pieces as occurred, showed coarsely executed simple geometrical patterns in monochrome, such as annular, loop or wave lines and zigzags. Below this, down to about 10 feet above field-level, fragments with geometrical designs executed in



16. SKETCH PLAN OF KAZĀBĀD MOUNDS, HULAILĀN



17. SKETCH PLAN OF CHIGHĀ-PAHAN MOUND, KŌH-I-DASHT

black and red also occurred (see 17, 25, Pl. X).

Monochrome pieces showed more carefully executed patterns, such as lozenges, wavy lines (18, 19, Pl. X) and triangles. The fragment of a hollow stem of an offering dish is found in 24, Pl. X. Large stones used for wall foundations, rubble flooring and rough stones with sockets for door pivots were observed in several places. Fragments of burnt bricks, 11 inches square and $3\frac{1}{2}$ inches thick, were found at a level of 14 feet in what appeared to be a small kiln. The objects found included a small ellipsoidal cup (1, Pl. XXVIII), fragments of a glass bangle showing a white ribbon coiled over a core of translucent blue grey (9, Pl. X), and a fragment of a terracotta figurine representing the hindquarters of an animal, perhaps a dog (33, Pl. X). It deserves to be noted that, apart from half a dozen stone hammers, the only stone implements found were two flint flakes.

From the ceramic types found in this deep trench, *a*, it became possible to establish that the greater portion of the debris layers forming the mound had accumulated through occupation during a prolonged period, when apart from unpainted pottery prevailing in great quantity and generally of coarse fabric, relief-decorated as well as roughly painted ware was also in use. It was pottery just of the last two kinds which was found so frequently in the graves plundered for bronzes at previously described burial-sites. This is an observation of some importance bearing on the chronology of the latter sites. It confirmed the conclusion arrived at already by M. Godard, that the period from which these burials dated must have been a prolonged one.[6]

[6] See Godard, *Les Bronzes du Louristan*, pp. 25 sqq.

That it was a comparatively late one could be deduced from the fact that nowhere on this mound was to be found any of that carefully painted fine pottery which, ever since its discovery at Susa, has been definitely recognized as belonging to the fourth millennium B.C.

The evidence deducible from the observations made at that deep trench as regards the age of those burial-sites was directly confirmed by the finds which were made in a second trench, *b*, opened from the start on the lower half of the northern slope from a level of 15 feet downwards, and subsequently considerably extended westwards (sections ix-xv). Here a burial-site was struck and cleared down to within a foot or two from the field-level where finds ceased. First in ix at a depth of 8 feet there came to light the crushed body of a man, buried in a crouching position, and by its side a complete pot (38, Pl. X; 18, XXVII), with a small handle and long spout. Near by lay a large pot, of superior and burnished reddish ware, with an ear below the everted rim; close to this was found on a slightly lower level a complete body with legs outstretched to the south-west and feet crossed. Stones formed a roughly laid enclosure around the body.

In xi on the same level another body was cleared with legs stretched out. It was probably that of a woman, as from the arms there were recovered fragments of iron ornaments (21, 27, Pl. X), and from the feet two massive iron anklets (28, 31). A broad iron band recovered in fragments appeared to have formed a bracelet (32). There were several very corroded iron pins, too, retaining traces of a woven fabric, nine carnelian beads (8), two fragments of one (or two) glass beads, and fifty-nine shells of three

types (1-7, Pl. X) which evidently had been threaded to form a necklace. At the body's feet lay a small globular pottery flask (35, Pl. X; 18, XXVII) with two lugs, and near the head a small cast bronze cup (37, Pl. X).

In xiv a badly crushed body was unearthed on a level of +10 feet, buried apparently in a crouching position. By its middle lay part of the blade and tang of an iron dagger (26, Pl. X) and a small bronze ring which may have belonged to some fastening. The variety of methods of burial was strikingly illustrated by the finds made in xv. There at a level of +10 feet lay the body of a woman, probably very young, laid out with the head to south and the feet to north. Below the skull were recovered a large number of beads of bronze, glass (or frit), and domical 'buttons' with shanks (10, 11, Pl. X). Conical shell beads of a peculiar shape (16, Pl. X) and very small shell discs (15, Pl. X) found in great numbers formed part of the same neck ornament. On the breast of the body lay the small bronze figurine of a standing infant (13, Pl. X) with a large loop at the back. It was obviously meant as an amulet to be worn to secure progeny. On each wrist were found two small elliptical bronze bangles (21, Pl. X). Two bronze pins with baluster heads (12, Pl. X) may have served for the lady's head-dress.[7] At the feet lay a small cup with strap handle (12, Pl. XXVII).

In the same section, xv, but on a level some 3 feet lower, was found a ribbed jar, lying against a large shattered vase, decorated with a cable moulding and two rounded

[7] See Godard, *l.c.*, Pl. XXX, Nos, 139, 142, for bronze pins of the same shape.

ribs (15, Pl. IX). On clearing out the earth filling the vessel to the middle there were found fragments of small animal bones, charred ; next emerged human teeth, a piece of a human skull, fragments of bronze bangles, and a rough stone ring which possibly had served for a mace head.[8] Here was an undoubted example of a burial of remains from a body which had been previously exposed. There was no indication of the remains having undergone cremation.

In a trench opened some 20 yards further west there came to light in section xviii, on a level of about +12 feet, fragments of coarsely painted pottery and of plain ware dressed with a white slip. In xix, on a level of about +10 feet, stood a large vase (Fig. 76) measuring about 26 inches in height and as much in diameter, decorated with four cable mouldings. In the earth filling it there were found a few small human bones with fragments of pottery. Close to the vase and on the same level were found three badly smashed pots which also seemed to have contained small human bones. On a level some feet higher there had been found a complete skeleton with the head laid to the north and outstretched legs. Several broken pots lying close to it, and probably holding provisions for the dead, were dressed with the whitish slip characteristic of much of the plain pottery found throughout the upper layer in the main trench.[9] In a third trench, sections

[8] For a stone mace head of a similar shape found at Talysh, near the southern shore of the Caspian, see Godard, *l.c.*, p. 60, Fig. 11.

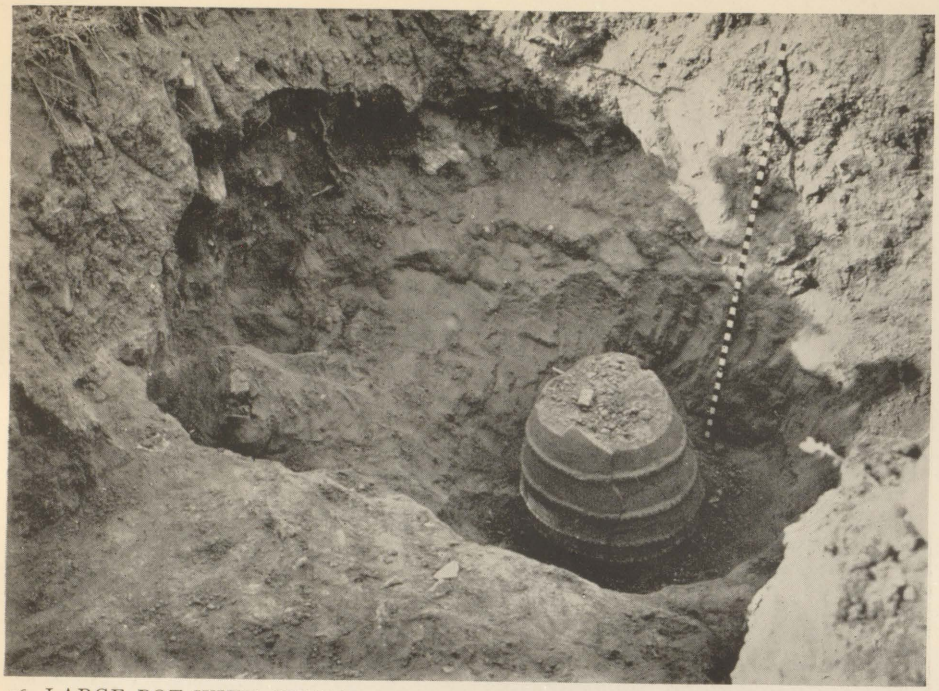
[9] I may note here in passing that this white slip had become very familiar to me from *dambs* throughout British and Persian Balūchistān and also in Fārs. It appeared to supply a distinct dividing-mark between the pottery of chalcolithic sites and that of early historical periods.

xx-xxiii, opened from a level of 15 feet downwards further to the west, no more burial remains were found. The painted potsherds found showed only simple monochrome patterns, mainly annular lines in black. A slightly more elaborate design is shown by the fragment 36, Pl. X, with its peculiar bracket-like lug projecting from and continuous with the rim.

The interest of the results yielded by the trial excavation at the main mound of Kazābād may thus be briefly summed up. It has shown that the graves found on the lower slope of the mound are of the same type and approximate period as those which have yielded the 'Lūristān bronzes'. The finds of iron objects in them prove that iron was known at the time when these burials took place. But the fact of these objects being almost exclusively ornaments clearly indicates that iron was still a metal of special value and not readily produced locally.

In view of increasing evidence becoming available in Mesopotamia and elsewhere as to the time of the introduction of iron, this occurrence of iron in the Kazābād burials helps definitely to support the attribution of the Lūristān bronzes to the Kassite period.[10] The close agreement between the ceramic types represented in the funerary furniture of the graves and those in the upper strata of the Kazābād mound containing the debris accumulated from prolonged occupation shows that the burials date from the period when the mound was in course of formation, and, further, that the custom of burying the dead close to the habitations of the living was the same as

[10] For the development of Kassite art as illustrated by the Lūristān bronzes, see Godard, *Les Bronzes du Louristan*, p. 100 sq.



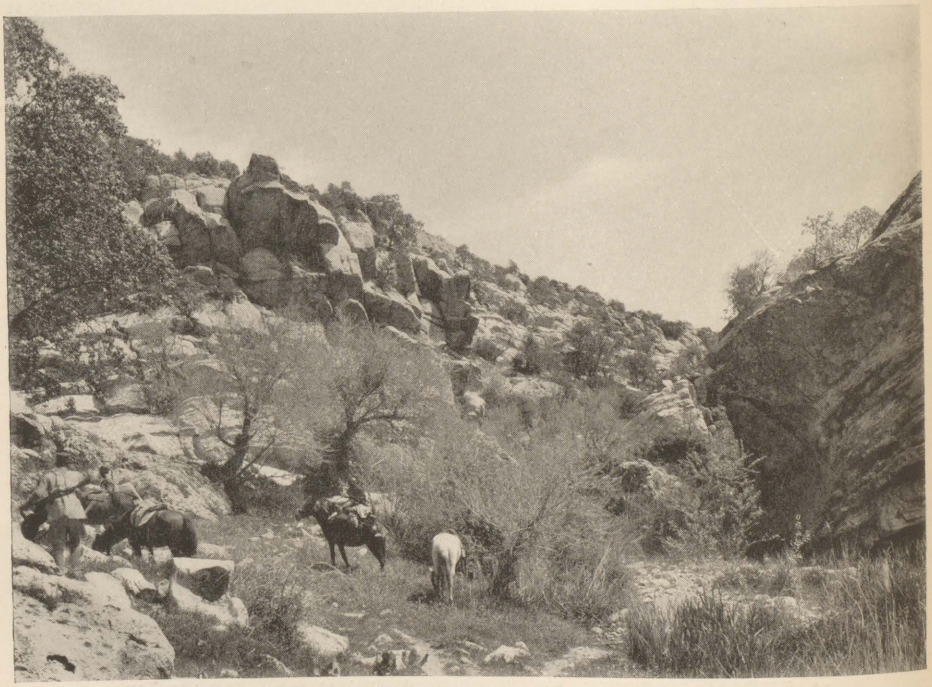
76. LARGE POT WITH BURIAL REMAINS, IN SECTION XIX, KAZĀBĀD MOUND



77. BURIAL DEPOSIT, IN TRENCH SECTION XXI, GIRAIRĀN



78. CHIGHĀ-PAHAN MOUND, KŌH-I-DASHT, SEEN FROM WEST



79. IN DEFILE OF TANG-I-GURĀZ, KŌH-I-DASHT

observed at several sites which are known to have yielded Lūristān bronzes.[11]

If it were safe to draw a conclusion from the fact that in the Kazābād graves only bronze objects of modest value and artistic merit have been found, we might perhaps be led to conjecture that they belonged to the humble settled and cultivating portion of the population, while the graves rich in fine bronzes were those of chiefs clinging with their tribal followers to the aristocratic ways of nomadic life and preferring seasonal encampments to permanent settlements. But obviously the number of graves excavated is too small to permit of a definite inference of such a distinction to be drawn.

During the last two days of my stay at Kazābād it was possible to have some trial excavation carried out partly under the Surveyor's supervision at two smaller mounds *B* and *C* situated about 180 yards to the north-west of mound *A* (see Plan 16). On *B*, rising to 32 feet at the highest point of its flat top, the trenches cut from levels of 15 feet and 10 feet downwards showed only sherds of an indeterminate type. Remains of walls built with mortar suggested later occupation, as did also the hardness of the soil in places where mud-brick masonry appeared to have been struck. At the small mound *C*, the height of which is only about 10 feet, a trench was carried down in three sections to the natural soil. The ceramic ware found comprised some interesting varieties. Among the painted sherds there were a number with carefully executed geometrical designs either on terracotta ground

[11] See Godard, *l.c.*, pp. 19 sqq.; also the observations made by me at Mūrakūn and Qal'a-gaurī, pp. 242 sqq.; 258 sq.

or on a white slip. Some pieces show the simple pattern in white 'reserved' on black like the fragment 30, Pl. X. Among the plain pottery, too, fragments of superior fabric and fine finish were observed. These indications clearly pointed to earlier occupation at this mound.

On April 16th I moved our camp to a site of graves, known as Pilla-kabūt, situated above the right bank of the river at the south-western extremity of the Hulailān trough. On a previous reconnaissance I had ascertained that the very numerous graves marked by large stones on the slope of a gypsum hillock known as Shīre-chighā, had been extensively dug into several years before by a party of Kākawand. Pieces of large vessels roughly painted with simple geometrical patterns (20, Pl. IX) or showing annular rounded ribs were lying near excavated graves which were supposed to have yielded bronzes. During our stay at the site, which lies about a mile to the south of the nearest cultivable ground, some 180 opened graves were counted.

Among the spots marked by large stones which had not been previously searched more than thirty were examined by us. In the majority of them there were found, usually within 2 feet from the surface, small pieces of plain pottery, some showing a white slip, and often also small fragments of human bones. In one grave there was found a pot of coarse plain pottery, measuring about 8 inches in diameter and height, containing only earth. But above it there lay several pieces of human bones which made it quite clear that the pot was intended for a burial deposit. There can be no doubt that these graves were meant merely to commemorate dead whose bodies had been exposed after the fashion so abundantly attested by the *dambs* of Balūchistān,

Makrān and Fārs. In a number of cases not even bone fragments could be traced. At the same time the way in which such humble 'graves' were interspersed among others where the pieces from large vessels found and broken by the Lūr searchers attested more interesting burials, clearly proved that the period during which Pilla-kabūt was used as a graveyard was the same as that of the Kazābād burials.

Section ii—IN KŌH-I-DASHT

I was now eager to regain the left bank of the river and to make my way eastwards to Kōh-i-dasht, an important tract in the centre of Pīsh-i-kōh and in the northern neighbourhood of Tarhān. But owing to heavy rainstorms and the flooded condition of the river it was not until dusk on April 18th that I saw to my relief the last of our baggage and men safely ferried across to a point above Shukrullah Khān's hamlet. The next day's march under a brilliantly clear sky brought compensation for two days' discomfort and worry. It took us from near Mūrakūn up the steep limestone range which overlooks the Hulailān trough on the east and forms the watershed towards the Kāshgān river drainage. We found the slopes covered with an ample tree growth, mainly of oak, and under it a profusion of spring flowers, greatly varied, delighted the eye. Just before reaching the pass of Ziān, at an elevation of 5500 feet, our path leading up easily along limestone ledges was bordered by large bell-shaped flowers resembling a *Canna indica* and glowing with a brilliant brick-red colour in the shade of the oak bushes.

The long open valley of Khush-mahūr, at its centre about 4800 feet above the sea, which was reached beyond the pass, holds no running water, yet it looked pleasantly verdant at this season. It showed signs of having been once closely cultivated on the gentle slopes also, but now held only a few scattered groups of reed-huts occupied by semi-nomadic Lūrs. But enforced settlement was proceeding, and when, after a night's halt near one of those improvised hamlets, our journey to Kōh-i-dasht was resumed we found a band of prospective settlers engaged in laying out boundaries of fields. Heaps of collected stones and traces of terrace walls on ground now thickly overgrown with trees and scrub denoted cultivation abandoned for a long time past.

That day's enjoyable march brought us to the centre of the Kōh-i-dasht tract. For the first 12 miles or so it led along the foot of wooded slopes and then through continuous luxuriant oak forest, quite park-like. Not many of these trees were as big and high as one might expect to see amidst similar scenery in England ; yet the impression as a whole was delightful. Obviously centuries of anarchy had here assured Nature a chance of recovery from the results of human activity. The trees had made such use of this chance as climatic conditions would permit and had overgrown much of formerly tilled land. Fires started by thoughtless graziers had in many places singed the bushes of young oak ; but the larger trees had escaped, and under the recently burned bushes fresh growth was again sprouting up. Even on the down-like ground which was crossed for another 6 miles on descending from a saddle of about 5400 feet, the number of oak bushes showed that Nature

was at work reclaiming its own.

Nature's task has certainly been made easy on this naturally fertile plateau by the restrictions which long-continued disorder and insecurity had imposed. Kōh-i-dasht, owing to its central position, appears to have served as a favourite base for a succession of Lūr chiefs who, by intrigues and skilful use of tribal feuds, endeavoured to dominate Pīsh-i-kōh. The last of them, Nazar ʿAlī Khān, had rivalled in power the Wālī of Pusht-i-kōh, the practically independent ruler in the southern part of this region, and had fought him repeatedly. No wonder that Kōh-i-dasht had suffered much from the exactions of its tribal chiefs and become sadly depopulated. Nazar ʿAlī's son, ʿAlī Muḥammad Khān, had about eight years before my visit headed the last serious rising in Lūristān against the government. He had held a force of regular troops sent against him at bay for a month at a hill pointed out to me at the eastern edge of Kōh-i-dasht. At first pardoned after his submission, he was subsequently removed as a state prisoner to Tehrān.

At Gudār-pahan, in the centre of Kōh-i-dasht, where the castle occupied by Nazar ʿAlī Khān stands, I received a hearty welcome from his nephew Amānullah Khān. After murdering his brother the old chief had brought up this nephew with his own son. But the crime was not forgotten, and when the fratricide's son rebelled Amānullah was ready to take the side of the government. For the help then rendered he was given charge of the tract. It could scarcely surprise me to find his power and emoluments strictly curtailed. Two army officers were stationed at Kōh-i-dasht to look after more important affairs and to

ensure that Amānullah's tribal influence should not exceed useful limits. One of them, a shrewd burly Armenian, could be trusted to keep his eyes open — be it only for his own security. A similar arrangement might well have served the Roman administration in some newly pacified tract on the empire's eastern border.

I found Amānullah Khān, occupying a modest new dwelling outside the castle, very willing and helpful. Guided by the intelligent local information he supplied, I was able by reconnaissance rides on two days to examine all the old places in the wide basin drained by the Mādiūn-rūd. My first visit was paid to a site called *Qal'a-i-gaurī*, 'the Fort of the Gabrs (Zoroastrians)', reached after a $2\frac{1}{2}$-mile march to the north-west of Gudār-pahan. There remains of the foundations of walls roughly built with stones and without mortar enclose an irregular quadrangle measuring on its longest side about 120 yards. Inner lines of similar walls could also be traced, as well as the position of a gate on the northern side and of a round tower or bastion at the western corner. Plain potsherds lay in plenty on the surface, as well as rare pieces with ribbing and cable ornament in relief. The type of these pieces conformed closely to that of similarly decorated pottery fragments at Kazābād and Pilla-kabūt. All round the once occupied area were seen graves scattered within a radius of 300 yards, all marked by large stones and dug up.

The burial site had been thoroughly burrowed into and plundered some five years before by a tribal party from the Delfān side, according to a local Lūr's statement. Potsherds painted with simple groups of black lines and cross-hatching were numerous at this burial site (16, 18,

Pl. IX). Bronzes were said to have been found, particularly in graves which had a roofing with slabs set aslant. Fragments of large vessels, broken in this search, were seen lying around many of the opened graves. The pieces showing decoration with bands of ribs or other simple ornament (22, Pl. IX) agreed closely with pottery of this type found at Kazābād and within the enclosed area. The size of some of the plain pieces seemed to bear out the statement that during the search vessels had been found large enough to hold a boy.[1] It only remains to be noted that the impression received by me of the lay-out of the Qal'a-i-gaurī was that of a place meant to afford some measure of protection to a seasonal encampment, not that of a permanently occupied site.

Such a site was found within a mile to the south-west at the mound of Chighā-zargarān, rising to 12 feet amidst fields partly under cultivation. The few fragments of painted pottery picked up on the surface showed traces of designs in black, too simple or too faint to permit of any certain determination of the type. The same was the case also at the considerable mound of Chighā-siāh, about one mile to the south, measuring some 280 yards from east to west, and about 120 yards across. Here the thick growth of grass and scrub covering the mound right up to the top, 32 feet in height, prevented a closer search for characteristic ceramic types. The painted pieces collected all showed a dull terracotta fabric dressed with a warm buff. The patterns painted over this were of the simplest.

A third mound 2 miles to the south of Gudār-pahan

[1] M. Godard, *Les Bronzes du Louristan*, p. 26, seems to hint at reports of burial of complete bodies in large vases.

known as Chighā-āhū, 'the Mound of the Antelopes', small and of a perfectly conical shape, curiously enough showed no ceramic debris whatever on its steep slopes, though these were almost bare of vegetation. This negative observation seemed to support the local belief that the mound had been artificially raised by some chiefs of old to watch their greyhounds chasing game, abundant on this side of the plain. Beyond it to the south-east could be seen the gap in the hill-chain through which the Mādiūn-rūd, gathering the drainage of Kōh-i-dasht, makes its way towards the Kāshgān river. I regret not to have found time to visit the ruined bridge reported to be on it lower down.

On a second reconnaissance directed to the eastern portion of the plateau I first visited the large oblong enclosure known as Bāgh-i-Zāl, 'the Garden of Zāl' (Rustam's father), measuring about 220 by 500 yards. That the enclosing walls built with mud bricks had decayed into mere banks of earth pointed to some age. In the middle a small mound with fragments of burnt bricks, 10 inches square and 2 inches thick, and of plaster, suggested the position of some structure, probably of late Islamic times. Outside, the position of tanks and the line of a canal could be traced. Continuing to the north-east and further on ascending a stony glacis furrowed by drainage beds, we reached the shrine of Dā'ūd-i-Rash with its domed tomb perched on a tree-covered hillock. The grave-stones around often show in roughly carved relief a rider with spear and other human figures.

Turning back to the south and crossing a number of old cultivation terraces once served by canals from the stream of the Gurāz valley, we arrived at the largest of the

Kōh-i-dasht mounds, appropriately known as Chighā-pahan (Fig. 78). It lies at an elevation of 3900 feet, close on 3 miles to the south-east of Gudār-pahan, to the west of a drainage bed which receives most of the drainage from the high range on the north. The greatest portion of it was found to be covered with luxuriant crops of wheat and barley, proof of the fertility of soil favoured by the deposits of long-continued human occupation. But at the western extremity of the mound the slope, rising to 35 feet above what looked like an old stream-bed now dry, was too steep for tillage, and there a brief search soon supplied evidence of very early occupation in the shape of worked flints and superior painted sherds picked up on the surface.

On the way back to camp I visited the small mound known as Chighā-surkh. It appears to mark the position of a Sasanian mansion, badly ruined apparently through quarrying for building stones. In the centre there can be traced a small platform, 6 feet square, built with large undressed stones and very hard white cement. The plaster face shows rough decorations with circlets impressed by the fingers. On one side of a passage around it a portion of a wall survives.

On April 23rd we moved our camp to the foot of the Chighā-pahan mound and started a trial excavation. It was facilitated by an adequate supply of labour and kept us hard at work for four days. The mound (Fig. 78) extends, as the Sketch Plan 17 shows, for some 400 yards from east to west and has approximately the same width from north to south. Its fairly flat top rises to a height of 35 feet above the dry bed which skirts its western foot. This bed is joined by two smaller beds running along the

northern and southern flanks of the mound, and to them I shall have occasion to refer further on. First one trial trench, *A*, 8 feet wide, was cut in 13 sections from the western edge of the cultivated top of the mound on a level of 30 feet down to a level of 4 feet above the flat ground beside the drainage bed. Subsequently a second trench, *B*, of similar width was cut in 11 sections from the top down to a level of 10 feet. The first search on the sloping surface, as mentioned above, had been rewarded by numerous finds of sherds with neatly painted monochrome designs or burnished surface, also of flint blades. All these continued throughout from the top down to the lowest sections, where in ix-xi the digging reached a depth of 7-8 feet. But in sections xii-xiii painted ware became scarcer. It deserves, however, to be noted that all through the proportion of plain ware as compared with painted ware was larger than at Kōzagarān.

From Mr. Andrews' careful analysis of the hundreds of pottery specimens it is seen that the fabric shows mostly a warm buff or pale terracotta colour, often dressed with a very thin pale buff or, in some cases, a whitish slip. Among the terracotta pieces a few are dressed with a rich red and burnished. The painted decoration is executed in black or brown, sometimes with a bright glazed surface. Polychrome treatment is found only in a small number of fragments, mainly from levels representing the middle height of the mound, and in the shape of red bands (for specimens see 17, 27-31, Pl. XI). The painted designs, though mostly of simple geometrical types, show a remarkable variety of details, as will be seen on reference to Pls. XI, XII. Among the motifs most common in these

designs may be mentioned, apart from the frequent multiple annular lines, lozenges, zigzags, 'triglyphs', wavy lines, loops, lunettes, chequers, 'ladders', triangles in a variety of combinations, and 'butterfly' shapes. Chevrons (25, 26, Pl. XI; 4, XII) and occasionally fern fronds or feathers (11, Pl. XI) appear. Dots and cross-hatching are used but sparingly. Herring-bone occurs on Pl. XII, 14. 'Reserved' treatment is seen in 1, 9, Pl. XII.

Grotesque animal figures are found mainly among fragments from the upper and middle layers of the mound; they comprise rows of birds (1, 12, 24, Pl. XI) and long-necked animals (9, Pl. XI), horned animals (8, 16, Pl. XI), and stylized beasts (4-6, Pl. XI). The figure of a long-tailed beast of prey, with spotted body (10, Pl. XI), was found complete but broken into three pieces; the middle piece was subsequently lost. The missing part has been conjecturally restored in the reproduction.

Among the shapes of vessels, illustrated by Mr. Andrews' drawings in Pl. XXVIII, are represented bowls and cups, some cloche shaped (8, 9, 11); others with concave necking below a spreading rim, and an echinus shape in the small pot, 7. The double curved 'keel' typical of 'Nihāwand' pottery occurs frequently. The large biscuit-coloured bulbous jar, 3, with highly polished thin wall and small base, was recovered complete, as also the small cup, 2, with wide flaring mouth. In 2 a broad annular band is painted inside and outside; in 9 are painted rows of birds within panels divided by vertical bands of chequers. Pieces of perforated pottery, evidently from braziers, are numerous, one fragment being part of a 'waster'. Relief decoration by impressed mouldings is rare.

Of several pottery whorls, 19, Pl. XI, deserves to be mentioned for its peculiar shape. A roughly made animal figurine of clay is 20, Pl. XI; 13, Pl. XI, is a button seal of stone with simple geometrical design; 18, Pl. XI, a circular seal of black stone; and 14, Pl. XI, a fragment of a clay-sealing from a button seal. The only bronze objects found are 22, Pl. XI, a spirally twisted thin rod which may have served for applying antimony, and 23, Pl. XI, a tapering pin with pear-shaped head. Worked flints in the shape of blades or flakes turned up in numbers in all layers, also one obsidian flake. Among other miscellaneous small finds, there remain to be mentioned a bone borer (21, Pl. XI) and a small opaque white spherical bead which seems to be glass, found in xxi at a depth of 6 feet.

There could be no doubt that the 'Big Mound' marks the principal settlement of the Kōh-i-dasht tract in an early chalcolithic period, and a site which was left unoccupied in later times. Closer examination of its remains of painted ware with those of Susa I, Tappa Mūsiān and other chalcolithic sites might yet permit of a closer determination of the time of its occupation. The site would repay systematic excavation by those who could afford the time, months or maybe seasons, needful for the full execution of the task, and would be prepared to pay adequate compensation for the crops lost to the cultivators. As it was I could not altogether regret the limitations imposed on our reconnaissance labour; for the heat, brought on prematurely at this elevation of nearly 4000 feet by the close weather foreshadowing rain, had made itself tryingly felt in the daytime.

There was also an observation of distinct geographical

interest to reward our stay at this mound. A careful survey of it and the surrounding ground showed that it occupies the angle between two fairly broad beds now completely dry. That these beds had at a time not very distant held running water might well have been conjectured from what the ground itself indicated. It was all the more instructive therefore to learn from Ja'far Āzād-bakht, the headman of the nearest hamlet, and other reliable local men that these beds had carried a good deal of water from springs higher up in the basin until, some twelve years before my visit, these springs completely dried up.

This change was believed to have been connected with a severe earthquake experienced about the same time. This statement was fully confirmed by Amānullah Khān when he came to share dinner with us on the eve of our departure northward for Alishtar. He, too, remembered well the two beds at the mound filled with running water, and added the information that the springs near the fort at Gudār-pahan, which are now the main feeders of the Mādiūn-rūd, were much less numerous and abundant before that change took place at Chighā-pahan. Evidently it is a case of the subsoil drainage of the basin being subject from time to time to considerable changes in the direction of its flow, with consequences which an observer coming centuries later might easily mistake for signs of desiccation, whether general or local.

I cannot spare space to relate all the curious things Amānullah Khān felt free to tell us about the change which had come over life in this part of Lūristān since his uncle Nazar 'Ali Khān's power was broken and order established from Tehrān. How the old chief had

at times seen thousands of well-armed Lūr retainers gathered about his castle at Kōh-i-dasht before starting on his expeditions; how he himself would then not move anywhere without a hundred or two of mounted men as an escort, all of them wearing corslets full of cartridges right up their breasts, etc. As to the ways in which the outlay for all this was secured, by squeezing the semi-nomadic cultivators or by plundering exploits, Amānullah Khān proved more reticent. No wonder that many of those who tilled the soil of Kōh-i-dasht moved away to escape constant exactions. He was quite ready to recognize that the people in his district, poor as they still were, whether semi-nomadic or settled, were distinctly better off under the regime he had now to serve on the modest salary of 120 tumāns, say 180 rupees, *per mensem*. But it was rather difficult not to feel sympathy with him when he pathetically compared his present attire in a second-hand western frockcoat with all his quondam finery in silk and gold thread.

On the morning of April 27th we set out for Alishtar, a little-known tract to the north-east some 90 miles away, which I wished to visit before finishing my tour in the Lūristān hills and turning to Kirmānshāh for the summer's work in Persian Kurdistān. As a guide, Amānullah Khān sent with us an old retainer of his family, no doubt still considered a trusted slave, as indeed his negro-like complexion and features showed. 'Abbās Khān, intelligent and lively, like opium-smokers in these parts usually are, first claimed a horse to ride, but since neither his master nor I myself could secure one on hire, he in the end consented to come with us on foot. As originally of Alishtar,



80. RUINED BRIDGE ACROSS KĀSHGĀN RIVER, SUMĀQ, SEEN FROM RIGHT BANK

he proved useful there by his local knowledge, and his speaking both Persian and Lūrī facilitated contact with the people met on the way.

Section iii—UP THE KĀSHGĀN RIVER

Most of our way was to lie along the upper course of the Kāshgān river, the chief tributary of the Saimareh. The march which brought us to its bank led first along a dry drainage bed and then by a lively small stream up the Tang-i-Gurāz (Fig. 79), to a pass across the serrated, picturesque Gurāz range at an elevation of 5500 feet. The valleys on both sides were well wooded, mainly with different kinds of oak, and the fresh green of their leaves, together with plenty of spring flowers, refreshed the eye all the way. On descending to the Kāshgān river, we followed a somewhat devious route to enable me to examine the reported remains of an old bridge in the small tract known as Sumāq. These were reached at the point where the Āb-i-sahra, a perennial stream gathering its waters from a range rising to 7400 feet, joins the Kāshgān river. The ruins of the bridge, known as Pul-i-Kāshgān, proved far more important than I had expected, and their survey kept me busy both that evening and the following forenoon.[1]

Here, as elsewhere, those old builders of bridges had chosen a spot where the river is closely approached by a high rocky terrace on one bank. This facilitated access to the top of the high arches which the mode of construction necessitated for spanning the actual river-bed. Thus,

[1] For a brief notice of the Pul-i-Kāshgān, see J. de Morgan, *Mission scientifique en Perse, Études géographiques*, vol. ii. p. 206, Fig. 97 sq., Pl. CIII.

on the left bank the pier carrying the terminal arch was built straight against a wall-like cliff some 70 feet high. On the opposite (right) bank, the only one accessible to me, no less than nine massive piers carrying arches were needed to allow traffic to reach the full height of the bridge.

The rough sketch (Plan 13, p. 185) and the photographs (Figs. 80, 81) will, I hope, suffice to illustrate the brief description given of this imposing structure, all the more interesting because exactly datable. The total length of the piers and arches which could be measured on the right bank amounts to 630 feet. The two easternmost arches, now completely fallen, which spanned the river-bed proper, together with the pier (x) between them and the pier on the left bank (xi) must have added at least some 270 feet to this length. As seen in the sketch plan, the line of piers and arches stretches straight in a W–E direction from pier i, from the right to the left bank. The connexion of pier i with a ramp descending from the top of a rocky terrace is formed by three small arches turning off to the south-west.

The distances between piers i to vi are uniformly 34 feet 6 inches, while the thickness of the piers, measured approximately, varies but slightly from 29 feet 6 inches to 31 feet. Owing to the damage which all the piers have suffered both from floods and from quarrying operations, it was not possible within the time available to determine exactly the length of each of the piers. But it is likely to have been uniformly about 62 feet, as measured at pier vii. This length includes the semicircular buttresses which rise on either side of each pier. Piers vii and viii both measure 27 feet 6 inches in length, exclusive of the buttresses.

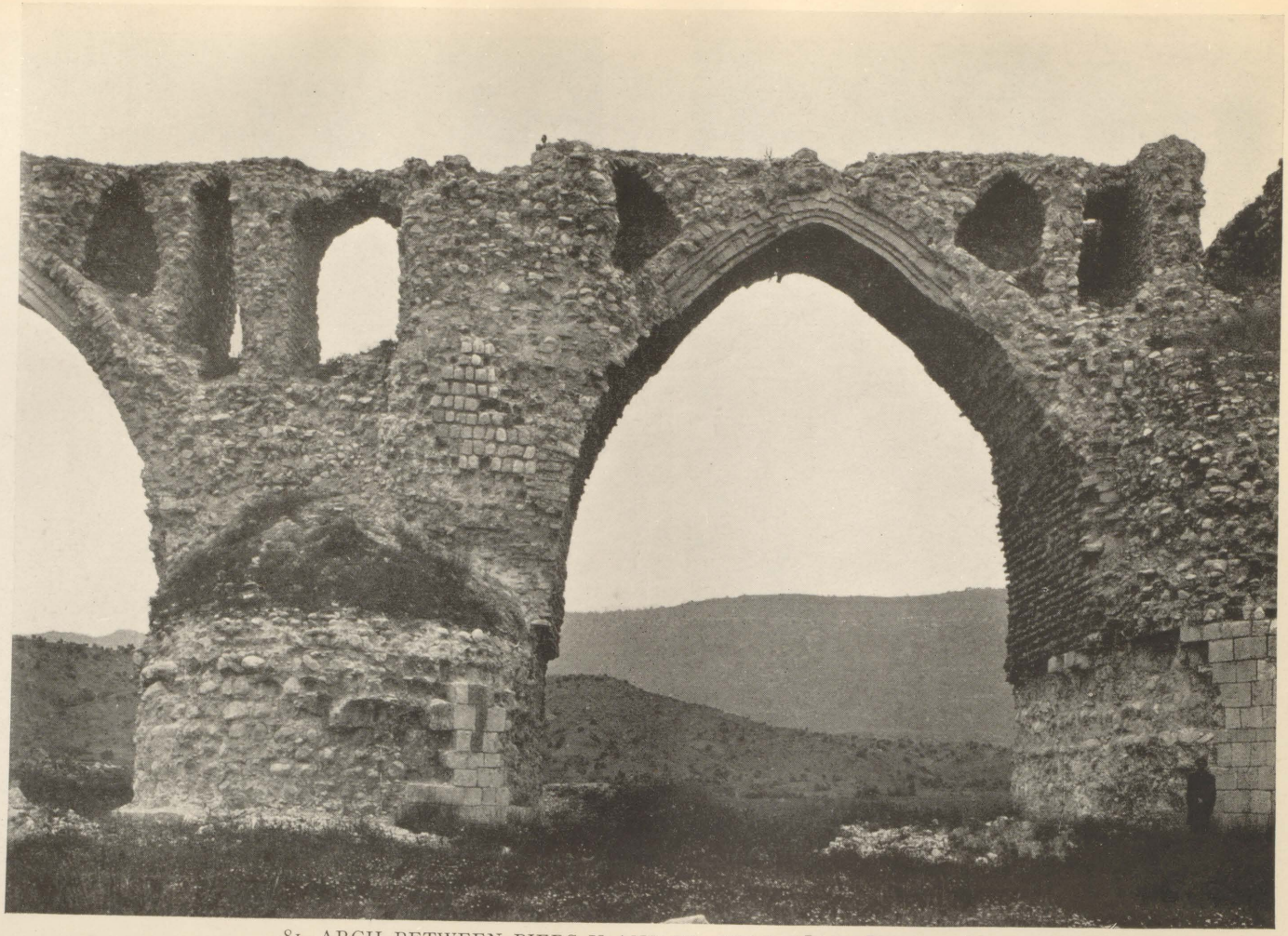
The distances between the piers from pier VI to pier IX, the one standing on the edge of the water at the time of my visit, vary from 60 feet 6 inches to 40 feet 6 inches. Those between IX–X and X–XI, covered by the river's flow, could be only approximately estimated at 100 feet. To the distances indicated, the spans of the arches must have corresponded. The arches from pier I to pier VI were still standing, though damaged in places. In the case of the arches on either side of piers II and VI the weight of the masonry resting on the arches is lightened by narrow vaultings flanking a larger passage passing transversely through either pier. The reason for this structural device having been adopted only in the case of these particular piers is not clear.

The arches are uniformly pointed, the top in each case being formed by a triple course of burnt bricks measuring 11 inches × 11 inches × $3\frac{1}{2}$ inches. The heights of the arches, where intact and accessible between piers I and VI, are 49 feet, 53 feet, 56 feet 6 inches, 57 feet 6 inches, 62 feet, respectively, as measured down to the top of the debris and silt below. But as the height of this varies, these measurements cannot be taken as correctly representing the height of the arches above the original ground-level. Owing to the decay of the masonry on the top of the piers and arches the width of the roadway could not be accurately determined. The bases of piers and buttresses have been faced with dressed slabs of fairly uniform height set in regular courses; but, as seen from those recently removed for the construction of a new bridge (see below), these slabs have no projection at the back for 'bonding', as found in the facing stones of the Sefaleh bridge.

An attempt had been made to repair the old bridge at a time when the arches between piers VIII–IX and IX–X had fallen, while the rest were still standing. Local information assigned this attempt to Muẓaffar-al-mulk, governor at Khurramābād about 1890. The means used for this very ineffective attempt were to be seen in some low piers and arches thrown out into the river-bed beyond pier IX, and in a deep cutting made in pier IX in order to give access to them. It was due to this cutting that I was able to ascertain how the masonry core of the piers was built, namely, in regular layers of concrete, about 2 feet high, separated by laminae of cement. The intention of making similar cuttings in piers VIII and X was indicated by the removal of facing stones (Fig. 82), but the work had not been finished.

The weakness of the attempted repair strikingly contrasted with the impressive size and solidity of the ancient bridge even in its state of decay. This made me regret all the more the evidence of vandal spoliation carried on for about a year by persons whom I found engaged under a contractor in building a new bridge a couple of hundred yards lower down. For the sake of securing materials cheaply, many of the facing stones of the piers had been stripped off and built into the small piers meant to carry the steel girders of the half-finished new bridge. By the side of the massive piers of the old bridge, the new piers looked quite puny. It all recalled to me the fate of the bridge built in the Salt Range in the Panjāb with sculptured stones quarried from the ancient Jaina shrine of Mūrti.[2] So I ventured to prophesy that this new bridge, too, con-

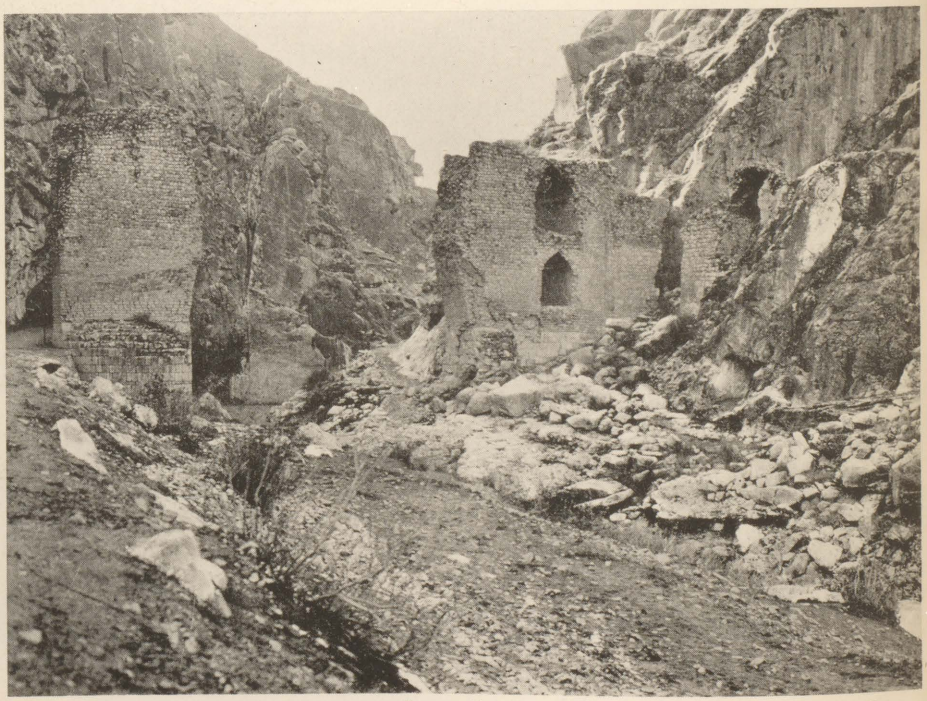
[2] See *Archaeological Reconnaissances*, p. 52 note 10.



81. ARCH BETWEEN PIERS V AND VI, PUL-I-KĀSHGĀN, SUMĀQ



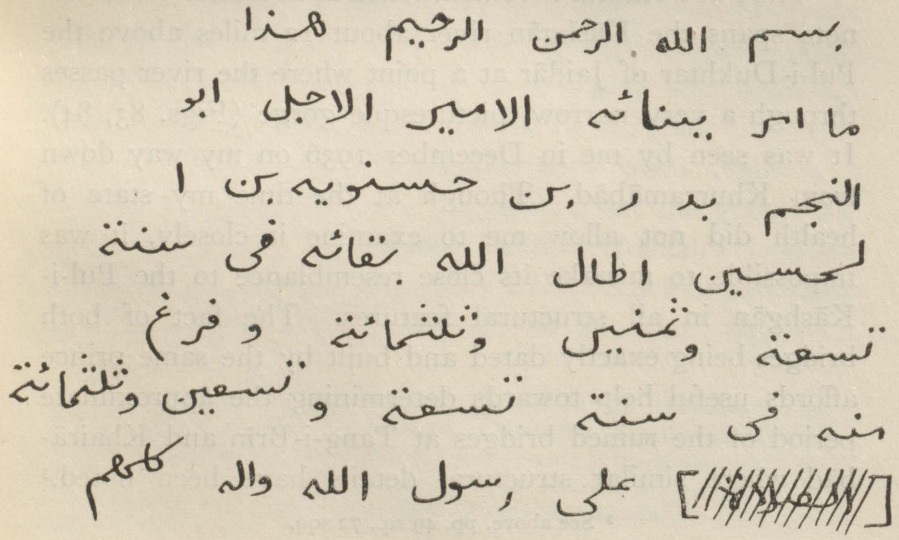
82. PIER VIII SEEN FROM TOP OF CUTTING IN PIER IX, PUL-I-KĀSHGĀN, SUMĀQ



83. RUINED BRIDGE ACROSS KĀSHGĀN RIVER AT KALHŪR, PĪSH-I-KŌH

structed with similar vandal spoliation, would before long be carried away by a big flood.

In view of the interest presented by the fair preservation of the structural features in at least a part of the old bridge, it is very fortunate that a slab inscribed in fine Kufic characters furnishes exact information as to the builder and date of the bridge. I found the stone, measuring 4 feet by 3 feet and complete but for the broken right-hand bottom corner, on the slope opposite to pier 1. But it was said to have fallen from the short arched causeway (*a*, *b* in Plan 13) which connects the bridge proper with the ramp leading down from the terrace. Professor J. H. Kramers, of Leiden University, has deciphered the inscription from the photograph of an inked paper impression which I was able to take, and has had the kindness to supply me with the following text and annotated translation of the same :



"In the name of God the Merciful, the Compassionate. This has been ordered to be built by the Glorious Amīr Abū'l-Najm Badr ibn Ḥasanawaih ibn al-Huṣain, may God lengthen his life, in the year three hundred and eighty-nine. It was finished in the year three hundred and ninety-nine. Blessings on the Apostle of God and His family altogether."

Badr ibn Ḥasanawaih Abū'l-Najm Nāṣir al-Dīn is a well-known Kurdish chief, who was recognized in 980 by the Buyids as lord of Kurdistan. In 372/96$\frac{2}{3}$ he conquered Media (al-Jibāl) and in 388/998 he received from the caliph the title Nāṣir al-Dīn wa'l-Dawla. He was murdered in 405/1014. (Cf. *Encyclopaedia of Islam*, s.v. *Badr*.)

The dates mentioned in the inscription are 389/999 and 399/100$\frac{8}{9}$. It seems remarkable that the honorary title Nāṣir al-Dīn does not occur.

An inscription of the same prince, of the year 374 (98$\frac{4}{5}$), was found by Herzfeld on the Pul-i-Kalhūr in Luristan and published by him on p. 74 of his *Archaeologische Mittheilungen aus Iran*, Band I (Oct. 1929). Herzfeld calls it the oldest Arabic-Muhammadan building inscription in Persia.

The Pul-i-Kalhūr here mentioned in Professor Kramers' note spans the Kāshgān river about 12 miles above the Pul-i-Dukhtar of Jaidār at a point where the river passes through a very narrow, picturesque gorge (Figs. 83, 84). It was seen by me in December 1936 on my way down from Khurramābād. Though at the time my state of health did not allow me to examine it closely, it was impossible to mistake its close resemblance to the Pul-i-Kāshgān in all structural features. The fact of both bridges being exactly dated and built by the same prince affords useful help towards determining the approximate period of the ruined bridges at Tang-i-Brīn and Khairābād where similar structural details have been noted.[3]

[3] See above, pp. 49 sq., 72 sqq.

Just as the Pul-i-Kāshgān lies on the most direct route from Khurramābād to Kōh-i-dasht, so also does the Pul-i-Kalhūr lie on the route from Khurramābād to Tarhān. This supports the conclusion that the present Khurramābād was a chief seat of Badr ibn Ḥasanawaih, and is identical with the town and castle of Sābūrkhuwāst which is repeatedly mentioned by Arabic authors in connexion with that ruler.[4]

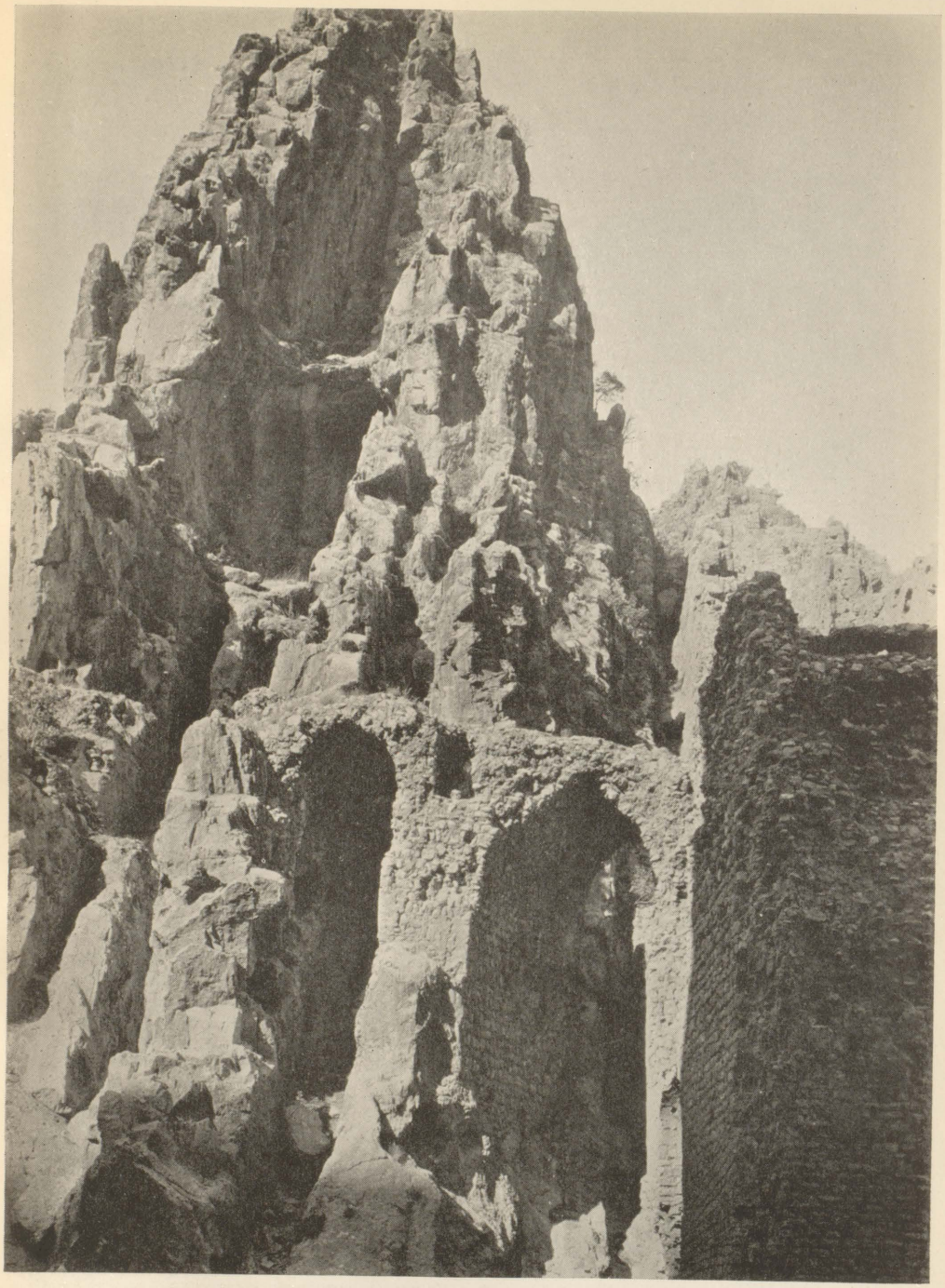
While engaged on the survey of the bridge, I had let the baggage start ahead with a view to not losing the day's march. So it was a surprise, not exactly pleasant, to find that our genial Inspector of Antiquities put in charge of the baggage had been induced by a hospitable invitation of the Nā'ib-Hukūmat of Sumāq to have our camp pitched near the latter's hamlet only 3 miles up the river. My regret at the delay was at the time lessened when local information was received of a large inscribed rock to be seen at the head of the side valley of Sumāq debouching here from the west. A two hours' ride through delightful park-like scenery (Fig. 86) took us up to a glen with luxuriant tree growth, known as the 'Garden of Afrāsiāb', the epic hero. After clambering up the very steep slope of a densely wooded ravine we reached at last the great rock called the 'Seat of Manījān', after Afrāsiāb's princely daughter. It proved, alas! only a huge block of laminated limestone which Nature had carved into the shape of a

[4] See Schwarz, *Iran im Mittelalter*, v. p. 668 sq., for references to Sābūrkhuwāst. Its castle, where the rebel son of Badr ibn Ḥasanawaih (Ḥasanūye) in 1009-10 was made a captive along with treasures, is the stronghold of Bālā-ḥiṣār in the centre of Khurramābād. The location of Sābūrkhuwāst at Khurramābād was rightly suggested already by Rawlinson, *J.R.G.S.*, ix. (1839) p. 98.

colossal seat at an elevation of some 5100 feet. Natural fissures and hollows on the flat top of the rock had been taken by Lūr imagination for writing.

Our march of April 29th, delayed by rain, took us up the Kāshgān river's *thalweg* for 13 miles, mainly past patches of cultivation. Though the moisture-laden clouds did not lift for long, I was able to appreciate the scenery of the verdant valley fringed by wooded slopes at the foot of precipitous hill chains. With the Kāshgān river tossing below in a tortuous bed and the track winding above it from spur to spur, I was often reminded of Upper Swāt.

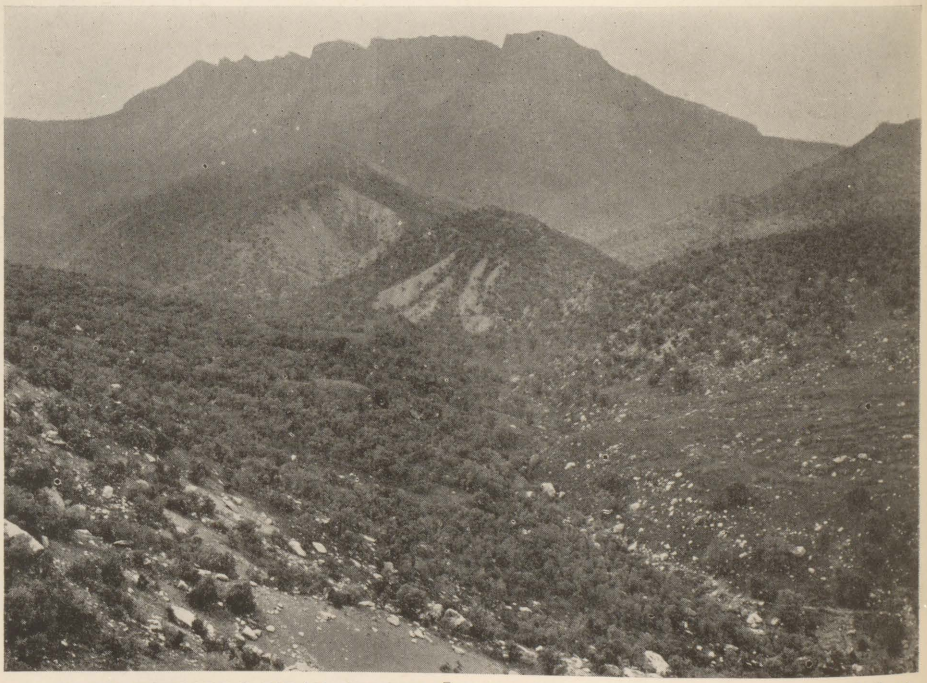
After a drenching night's camp on a stretch of lush meadowland near the few huts of Seh-cham we started on the morning of May 1st for the river gorges known collectively as Tang-i-Gau-shumār. There was reason to feel grateful for a day of brilliant sunshine; for the track was difficult where it crossed steep spurs and deep-cut ravines in order to avoid impassable cañons of the river. After about 8 miles, ground was reached where the valley is compressed between great rocky heights on both sides, parts of a main range of the Zagros through which the river has carved its way in a succession of sharp twists. From here onwards progress became distinctly difficult. At two places, half a mile from each other, the path proved something like a rock ladder leading along wall-like cliffs. Over stretches of it our hardy mules, even unladen, had to be dragged up and the baggage man-handled, the weary process taking hours. Evening had set in before the last of these rock ledges was passed, and we were grateful for the rising moon which allowed us to reach safely, after nightfall, the first spot where it was possible to pitch camp.



84. RUINED BRIDGE ACROSS KĀSHGĀN RIVER AT KALHŪR,
SEEN FROM LEFT BANK



85. DEFILE OF TANG-I-GAU-SHUMĀR, ON ROUTE TO ALISHTAR, SEEN FROM EAST



86. VIEW TOWARDS HEAD OF SUMĀQ VALLEY FROM 'SEAT OF MANĪJĀN'

It was a patch of fairly level ground high above the river, partly tilled and known as Haft-kānī, the ' Seven Springs ', at an elevation of 4300 feet.

It was a relief next morning to find that what remained of the river gorges to pass through, was less trying for men and beasts. After keeping for about 7 miles as close to the brink of the twisting river-bed as masses of fallen rock would permit, we reached the narrow gorge to which the name of Gau-shumār, the passage ' where the cattle are counted ', properly applies. Here the river, only about 30 yards wide, is confined between high wall-like ridges of reddish sandstone (Fig. 85), difficult even for men to climb over. The only passage practicable for four-footed animals lies along the brink of the river and is closed when this is in full flood. We found here an ancient causeway built with massive cemented masonry clinging to the foot of the cliffs for a distance of some 200 yards. But for this it would have been impossible to get our baggage animals through this true *chiusa*. Exceptionally solid as the concrete of this causeway is, it has been reduced in places by the force of the floods to a few feet in width or carried away altogether. At the latter places laden animals could not pass when the river rises.

Once this rock gate was passed and the foot of a steep ridge was skirted, progress became unexpectedly easy. While the valley of the Kāshgān river turns away sharply to the south-east between frowning mountainsides, our way led due north up the level bottom of a side valley in which the Tezhau stream carries a considerable volume of water to join the Kāshgān. Ground laid out for tillage was to be seen along stretches of the stream-bed, with small

canals taking off from it and carried along the hill slopes. But no habitation was met until, after a march of some 18 miles, a few reed huts at Chamhār, with Delfān people just arrived from their winter grazing-ground, offered the chance of a halt where our escort could secure food and my men milk and fuel. Since leaving the Kāshgān river tree growth had practically disappeared. For this the charcoal-burning operations extended to this ground from the side of the old settled tract of Nihāwand may partially account. We had now reached a height of 4800 feet, and the night was refreshingly cold.

I knew that the plateau of Alishtar, famous for its wide area of cultivable ground, must now be near; yet I was not prepared to find approach to it so easy as it proved when we had ascended a spur only 700 feet or so above our camp at Chamhār. Stretching away for miles and miles eastward there lay before us a broad valley plain watered by small streams feeding the Tezhau stream and dotted with little hamlets among fields of sprouting wheat and poppies. Opium, treated as a Government monopoly, was becoming a staple commodity all over Lūristān and a profitable export article. It was pleasant, as we passed on towards the almost imperceptible watershed, to note that near the mud-built hovels of Delfān Lūrs, all forcibly settled here since three years before, there were to be seen also small plots laid out with fruit-tree saplings. Fruit is the best lure to make semi-nomadic people take kindly to settled life. But I was not surprised to hear complaints about the bitter cold to be endured in the winter at this altitude, and about the increased mortality.

Section iv—THE PLATEAU OF ALISHTAR

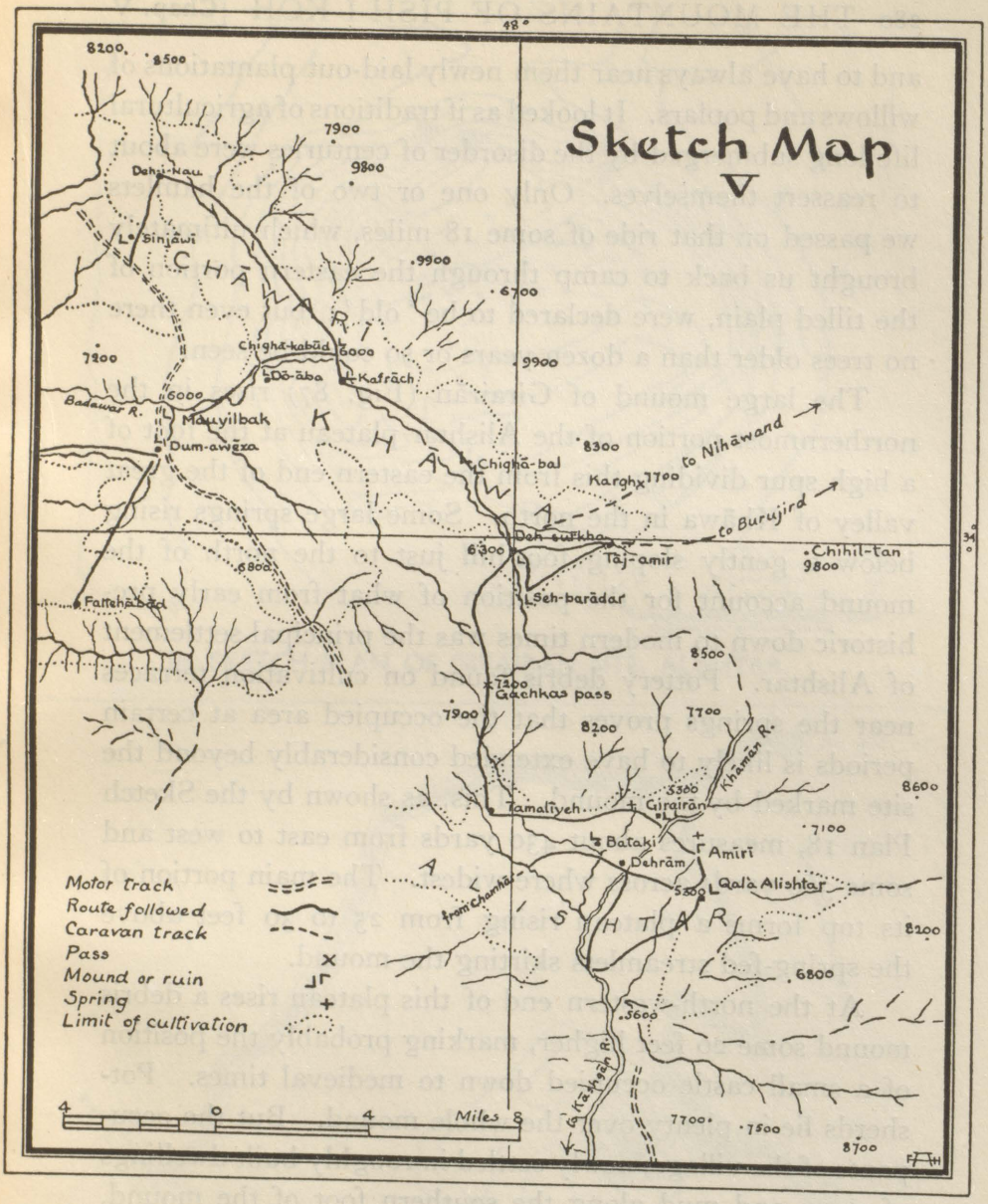
After marching 10 miles, as the water parting on a broad saddle was reached at an elevation close on 6000 feet, there lay before us a delightful vista. It extended over the verdant plateau of Alishtar fringed on the north and north-east by mountains all still bearing a glittering mantle of snow along their crest and rising here and there to bold peaks well over 9000 feet. For two of them farther away to the east the clinometrical readings taken in the course of the survey indicated heights of as much as 11,900 feet and 12,200 feet respectively. But of the dark growth of trees with which our journey since leaving Hulailān had made us familiar, there was no sign to be seen on the lower slopes of those mountains. It was evident that the range we had crossed since leaving the Kāshgān river marked a change to a distinct and more arid climatic zone, the plateaus of ancient Media. Another 10 miles had still to be covered, over ground almost flat throughout, before the track, winding past newly built hamlets, brought us at the foot of a spur descending from the range to the north-east to Qal'a-Alishtar, the administrative headquarters of Alishtar, situated at an elevation of 5300 feet (see Sketch Map V).

Apart from a fairly large fort built by Mīr 'Alī Khān, the last prominent chief of the Delfān Lūr tribes, captured and executed some ten years before, there was nothing to strike the eye here but an orchard, small but containing old trees. Outside the fort accommodating the local officials and a gendarmerie post there was a small cluster of petty traders' dwellings representing the commercial centre of the district. Yet we were all pleased with having arrived

at these outskirts of civilization, and the attentive welcome received from the official guardians of peace and order in this once turbulent tract made me doubly glad because I was able to let men and beasts have here a much-needed short rest. Still more pleased was I when a long reconnaissance ride made on May 5th, after two days' busy halt spent in writing and visits to officials, afforded the prospect of some useful archaeological work.

On proceeding first north-west towards the very conspicuous mound of Girairān there was seen close to the hamlet of Amīrī, at a cemetery with old tombstones, the completely collapsed ruin of a Muhammadan domed shrine. Among its debris was picked up a thick tile (1, Pl. XIV) stamped with deep impressions of four animals, crude but old work. From the same place was brought a bronze lid surmounted by the figure of a cock, probably medieval (3, Pl. XIV). The large mound rising above the village of Girairān was reached after crossing the considerable stream of Khāmān. The latter descends from the valley of Sar-āb and, fed by the drainage of the high range to the north, provides by numerous canals ample irrigation for the greater portion of the cultivated area of Alishtar. The abundance of painted potsherds, etc., picked up all over the mound left no doubt about its marking the site of a permanent settlement going back to prehistoric times. It was accordingly selected for trial excavation. Moving thence mainly south-south-west by a track winding from hamlet to hamlet, I was struck by the richness of the soil and its careful cultivation.

The new hamlets dotting the plain seemed mostly to have been built on low mounds attesting old occupation

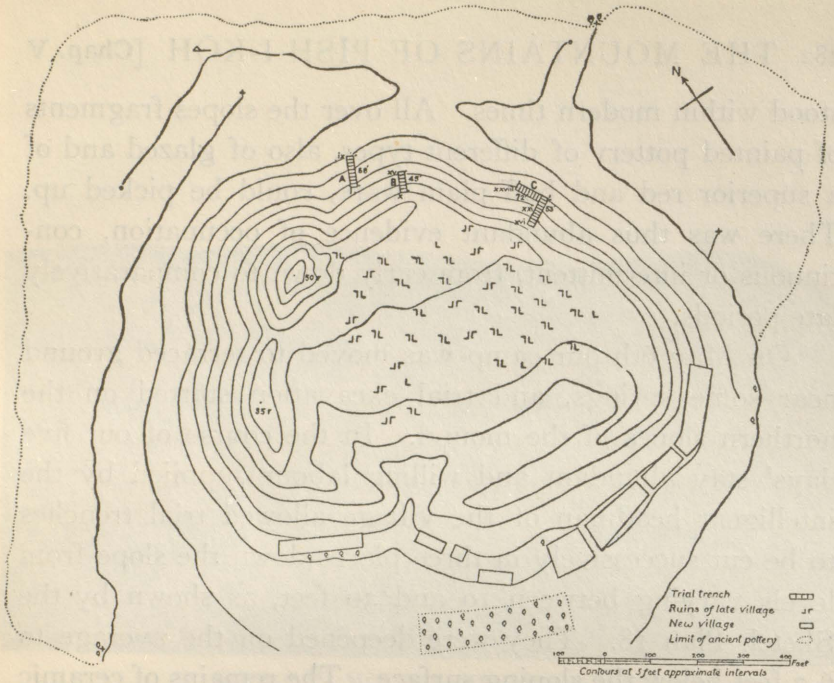


V. SKETCH MAP OF PORTIONS OF ALISHTAR, KHĀWA, CHĀWARĪ TRACTS FROM PLANE-TABLE SURVEY (FIELD RECORD, SUBJECT TO ADJUSTMENT)

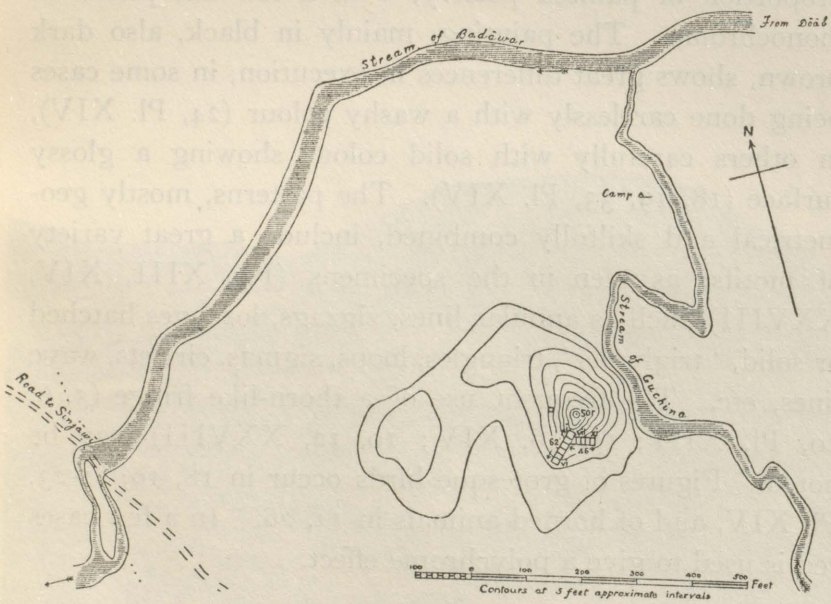
and to have always near them newly laid-out plantations of willows and poplars. It looked as if traditions of agricultural life long submerged by the disorder of centuries were about to reassert themselves. Only one or two of the hamlets we passed on that ride of some 18 miles, which ultimately brought us back to camp through the eastern portion of the tilled plain, were declared to be 'old'; but even there no trees older than a dozen years or so could be seen.

The large mound of Girairān (Fig. 87) rises in the northernmost portion of the Alishtar plateau at the foot of a high spur dividing this from the eastern end of the great valley of Khāwa in the north. Some large springs rising below a gently sloping foot-hill just to the north of the mound account for the position of what from early prehistoric down to modern times was the principal settlement of Alishtar. Pottery debris found on cultivation terraces near the springs proves that the occupied area at certain periods is likely to have extended considerably beyond the site marked by the mound. This, as shown by the Sketch Plan 18, measures about 430 yards from east to west and some 360 yards across where widest. The main portion of its top forms a plateau rising from 25 to 30 feet above the spring-fed streamlets skirting the mound.

At the north-western end of this plateau rises a debris mound some 20 feet higher, marking probably the position of a small castle occupied down to medieval times. Potsherds lie in plenty over the whole mound. But the occupants of the village, newly settled in roughly built dwellings of stone and mud along the southern foot of the mound, know not the use of pottery. Ruined walls on the flat top of the mound indicate where dwellings of a similar kind



18. SKETCH PLAN OF GIRAIRĀN SITE, ALISHTAR.



19. SKETCH PLAN OF MAUYILBAK MOUND, KHĀWA

stood within modern times. All over the slopes fragments of painted pottery of different types, also of glazed and of a superior red and buff plain ware, could be picked up. There was thus abundant evidence of occupation, continuous or intermittent, from early down to comparatively late periods.

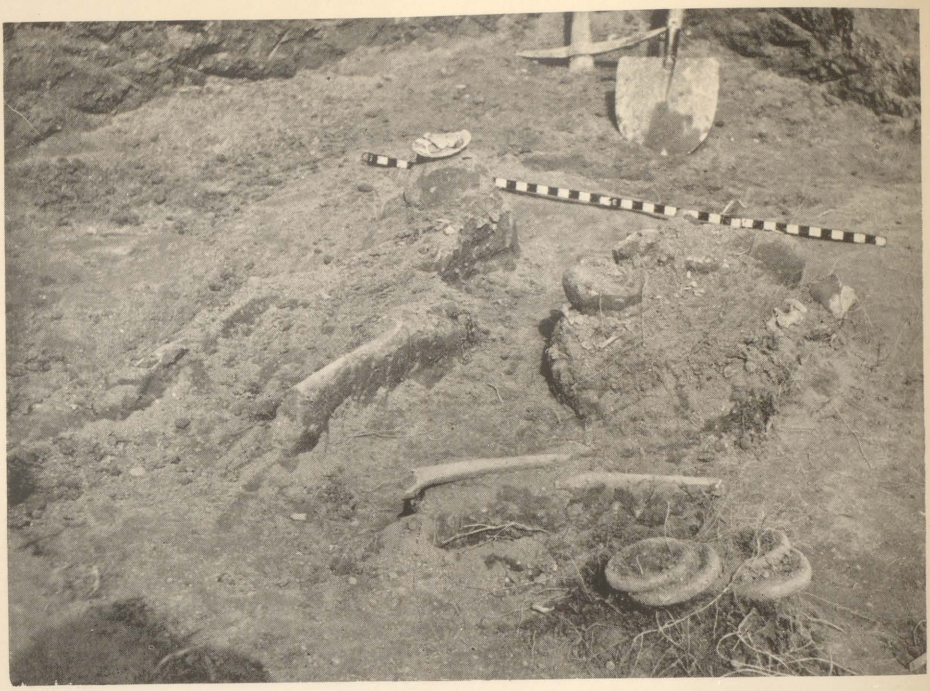
On May 6th our camp was moved to terraced ground near some springs, and trial excavation started on the northern slopes of the mound. In the course of our five days' stay abundant and willing labour supplied by the intelligent headman of the village allowed trial trenches to be cut successively in three places down the slope from levels varying between 10 and 30 feet, as shown by the Sketch Plan 18. They were deepened on the average to 6-7 feet below the sloping surface. The remains of ceramic ware, plentiful from the start, comprised a considerable proportion of painted pottery, with a few exceptions in monochrome. The painting, mainly in black, also dark brown, shows great differences in execution, in some cases being done carelessly with a washy colour (24, Pl. XIV), in others carefully with solid colour showing a glossy surface (18, 19, 33, Pl. XIV). The patterns, mostly geometrical and skilfully combined, include a great variety of motifs, as seen in the specimens (Pls. XIII, XIV, XXVIII), such as annular lines, zigzags, lozenges hatched or solid, ' triglyphs ', triangles, loops, sigmas, circlets, wave lines, etc. The frequent use of a thorn-like fringe (5, 6, 10, Pl. XIII; 15, 16, XIV; 10, 12, XXVIII) may be noted. Figures of grotesque birds occur in 18, 19, 21-23, Pl. XIV, and of horned animals in 14, 26. In a few cases red is used to give a polychrome effect.



87. GIRAIRĀN MOUND SEEN FROM NORTH-EAST



88. MOUND OF TELYĀB WITH VILLAGE AT FOOT, SEEN FROM EAST



89. BURIAL DEPOSIT IN GRAVE II, MAUYILBAK MOUND



90. BURIAL DEPOSIT IN SECTION IV, MAUYILBAK MOUND

Of other forms of decoration, a slightly raised rib or 'keel' is most common, ordinarily used where the convex curve of the body changes to a concave curve of the shoulder or neck (5, 6, 7, Pl. XIII; 10, 12, 16, XXVIII). Sometimes the rib is notched (10, XIII). Incised decoration occurs in the form of herring-bone or combing (8, XIII). The fragment, 10, XIV, decorated with ornament in low relief, was found on the surface and probably dates from medieval occupation, just like a number of pieces of glazed ware.

The fabric of the ceramic ware, both plain and painted, showed fair uniformity throughout the exposed layers. In the majority of pieces the colour is buff, often dressed whitish buff, or else terracotta. Grey ware, usually of superior hardness, was but scantily represented, and burnished pieces, both terracotta and black, were distinctly rare. The prevailing shapes of vessels are likely to have been those which are illustrated by the complete examples found among the funerary furniture of the burial in section xxi, to be presently mentioned.

Among non-ceramic small objects found throughout in the trial trenches flint 'blades' and flakes were by far the most numerous. Small bronze fragments of rods (9, Pl. XIV), a signet ring (7), a bangle (12), and a disc turned up at different depths. A spherical glass bead, imitating sardonyx, found in section i at a depth of 6 feet can scarcely be taken for an intrusion. Three stone button seals (4, 5, 8, Pl. XIV), with simple engraved designs, obtained by purchase at Girairān, correspond closely to those found by me at chalcolithic sites of Fārs. There were several stone whorls (2, 13, Pl. XIV) and a stone hone or burnisher. The neatly worked marble (?) mace head (30, Pl. XIV),

with a surface like a pine-cone, was purchased as having been obtained from the mound, but is of uncertain provenance.

It was in section xxi at a height of 10 feet above level ground and at a depth of 3 feet from the sloping surface that a discovery of special interest was made. It comprised the burial of a much-damaged male body laid out approximately N–S with plentiful funerary furniture by its side. The broken skull rested against the western wall of a large jar, dressed rich red, measuring 17 inches at the maximum diameter and 15 inches high (Fig. 77). Its painted decoration and cable ribs are seen in the fragment from the vase reproduced in 10, Pl. XIII. Touching the foot of the vase stood the small three-footed wide-mouthed jar (1, Pl. XIII) painted with annular lines and bands. Close to this was found a small much-corroded bronze cup and a little farther away a small wide-mouthed bowl (9, Pl. XIII). Near this lay the blade of a bronze dagger, with a raised rib down each face and rivet in the tang. Two globular pots, dressed in rich red and painted (4, 6, Pl. XIII; 12, XXVIII), stood a little farther off to the right of the body. Within each of them was found a small jug with loop handle and 'keeled' sides (5, Pl. XIII; 10, XXVIII), both painted with annular lines and thorns. Near to these pots lay a 'keeled' pot (7, Pl. XIII; 6, XXVIII), a small shallow bowl (2, Pl. XIII), and a three-footed jar, similar to 1, Pl. XIII. The broken half of a quern by the side of the large jar completed the furniture. From xiii in the same trench came a two-eared flat bowl (3, Pl. XIII), broken.

Numerous fragments of bones of sheep and fowls (?)

were found near the skull and knife. I may add that the vessels here found seemed to me to bear a distinct resemblance in colour, shape and decoration to those of the funerary deposit unearthed by me on the Tul-i-Ẓoḥāk mound of Fasā in 1933.[1] It also deserves to be noted that, in contrast with the abundance of worked flints found elsewhere in the trial trenches, no stone implement of any sort, apart from the broken quern already mentioned, was associated with the burial deposit in section xxi. Taking into account the position of the burial, it may be safely assumed that at the time when it took place the mound had already attained some height. Hence some of the ceramic ware excavated may well have to be assigned to an earlier chalcolithic period.

Regard for the programme still before me and in particular for the extent of unsurveyed ground to be crossed on the way to Harsīn would not allow of such protracted excavations as would be needed to reach the lowest strata of the mound. A succession of violent rainstorms had visited us during our five days' stay at Girairān, and had made work distinctly difficult. So I did not feel altogether sorry to be spared close examination of the higher portion of the mound by the evidence which a fine blue-glazed jar, decorated in black in a style pointing to the 13th-14th century, furnished as to its occupation in medieval times. It had only recently been unearthed on that portion of the mound by villagers digging for building stone.

Before leaving Girairān on May 11th for Khāwa I was able to visit a small mound some 3 miles off to the south-

[1] See ' An Archaeological Tour in the Ancient Persis ', *Iraq*, iii. p. 138 sq.

west, now partly occupied by the newly settled hamlet of Batakī, and much dug into for manuring earth used on the poppy fields. Such ceramic fragments as were found on the surface showed close agreement with the painted ware of Girairān (see 1, 2, 4, Pl. XV ; 15, XXVIII). It was possible also to acquire here some small bronze objects, including the figurine of a dog-like animal (3, Pl. XV) and a polyhedral weight (7), which might well be coeval.

As our route to the west skirted for 6 miles the foot of the high spur dividing Alishtar from Khāwa I was once more impressed by the abundance of water available for irrigating the fertile plain. At the mouth of the valley debouching from the Gachkas pass to which the track led and about half a mile below the hamlet of Tamalīyeh, I examined a small conical mound rising to 28 feet and measuring about 100 yards in diameter at its foot. The scanty fragments of painted pottery picked up on its surface, including a few pieces decorated in red and black, closely resembled the Girairān ware in type. In the valley cultivation terraces, unirrigated, were to be seen for a mile above Tamalīyeh. Before reaching the Gachkas pass, some $3\frac{1}{2}$ miles from the hamlet, the route ascends steeply in a narrow rock-lined ravine, where remains of an old paved bridle-path could be seen in a number of places.

The pass, once guarded by a tower now lying in ruins, gave access at an elevation of 7200 feet to a stretch of rolling uplands draining eastwards into Alishtar. But once the winding descent between these had brought us to a broad spur a distant view opened northward. Across the wide valley of Khāwa was seen the high snow-crested range rising to peaks well above 9000 feet which divides

it from Nihāwand, a well-known tract of ancient Media. We pitched camp at an elevation of 6300 feet at Deh-surkha, the first hamlet met, and next morning I proceeded with the Surveyor on a long reconnaissance ride. Going up first towards the head of Khāwa for some 5 miles as far as the newly settled hamlet of Tāj-amīr, I was able to enjoy quite alpine scenery towards the bold snow-covered peaks of the Chihil-tan massif, rising to some 9800 feet. One of them is visited by Lūrs as a 'mazār', and is supposed to mark the place where forty holy children suffered martyrdom at the hands of Kāfirs. It is known also as Chihil-nawala-kōh.[2] Some fine springs passed at the mouth of a valley descending from the peak help to form the *Sar-āb* ('Head of the Waters') of Khāwa. Apart from feeding canals at different levels its waters gather into a stream of some size a short distance lower down. From the level ground near the highest hamlet of Khāwa a fine view was obtained towards the pass which gives access from the head of the valley to the important Burujird tract eastwards.

Considering the great elevation of this portion of the valley, I could not feel surprise at not being able to trace evidence of early occupation except at two points. At one known as Seh-barādar ('Three Brothers'), about 2 miles south-south-west of Deh-surkha, there rise three small mounds, all undoubtedly of artificial origin, the highest about 15 feet high. On their surface only some glazed potsherds, with incised decoration of the Tīz type,

[2] The name *Chihil-tan* as the designation of a mountain occurs elsewhere also in the south of Persia, *e.g.* south-west of Kermān; but I have not been able to trace evidence elsewhere as to any local legend which might be held to account for it.

together with plain pottery, burnished or combed, could be found, all pointing to occupation in Muhammadan times. On a low mound, about 1 mile to the north-west of Deh-surkha, now covered by the newly-built mud hovels of Buroma hamlet, some worked flints could be picked up.

When moving down the valley we ascended a rolling ridge above the stream for the sake of a plane-table observation, and from there, rather unexpectedly, gained a first view of the great massif of Kōh-i-Parau, which flanks the ancient high-road of Media above Bisitūn. Snow-covered at the time, it presented even at this distance a very imposing appearance, rising high above the range which forms the watershed between Khāwa and Harsīn.

Already when descending from the Gachkas pass my attention had been attracted by a conspicuous mound farther down the main valley. On reaching *Chighā-bal*, as the mound is called, about 2 miles to the north-west of my camp, together with the hamlet at its foot, I found that it had been the subject of systematic excavation conducted some three years earlier by M. Ghirshman, on behalf of the Louvre.[3] A shaft sunk in the centre of the mound to a depth of close on 20 feet and a broad cutting made in its side showed how thoroughly this digging of a month or more had been done. I could therefore rest content with the evidence afforded by specimens of painted and ribbed potsherds (see 5, 8, Pl. XV) from the surface,

[3] [The interesting results of this excavation are fully described and illustrated by M. Ghirshman in *Fouilles du Tépé-Giyan, Sondage de Tépé-Djamshidi* (Musée de Louvre, Série Archéologique, iii, 1935), pp. 91-112; Pl. XXIII, 72-81. This important record became accessible to me in 1939 through a kind gift of M. Contenau and M. Ghirshman who had jointly conducted the earlier and still more fruitful excavations at Tépé-Giyan, near Nihāwand.]

The mound was mentioned to M. Ghirshman by the name of Tappa-Jamshīdī.

which showed that the types of ceramic ware at this site did not differ essentially from those found at Girairān. Two heavy bronze bracelets (6, XV), a bronze pin (11) surmounted by a bird, and a bronze pendant (10), which I purchased from local cultivators, had probably been dug up at the same mound, though declared to have been found while ploughing in an adjacent field.

Moving down by the right bank of the stream for about 1 mile we passed the mound of *Chighā-saifal*, about 20 feet high and measuring some 200 by 160 yards at its base. As neither painted potsherds nor worked flints could be found on its surface the march was continued to Kafrāch, a small village forming the administrative centre of Khāwa and boasting, like Qal'a-Alishtar, of a school. Kafrāch is situated close to where the main valley of Khāwa borders on the Chāwarī tract, stretching farther to the north-west along the foot of the high range which forms the divide towards Nihāwand. It was probably this central position and an abundant supply of water both from streams and springs which accounts for the presence here of the large mound known as Qal'a-Kafrāch. This rises to 45 feet above partly waterlogged ground and measures not less than 240 yards in diameter at its base. It was known to have been occupied for defence in later times, as was shown by the remains of a much decayed circumvallation on the top. No painted sherds were to be found on the steep slopes, and the debris accumulations from later occupation could be seen to overlie these so thickly as to place early layers beyond our reach within the limited time available.

So I decided instead to make a short trial excavation at a small mound called Chighā-kabūd situated about 1 mile

to the north-north-west across the Khāwa stream and rising to some 20 feet. Some digging had been done along its southern foot for intended habitations, and among the earth thrown out painted sherds were picked up.

On May 14th our camp was moved there and a trial trench cut down the northern slope. It yielded a considerable quantity of fragments of painted pottery as well as of relief-decorated plain ware corresponding in general character to the types noted at Girairān. The prevailing tones of the fabric were buff, usually finely dressed with warm buff, and smoothed. Pieces of grey ware, which always showed great hardness, were also found here. One piece (16, Pl. XV), dark grey, almost black, with soft annular ribbing and burnished, represents a make which had not been previously met with but which was to become familiar enough at sites farther north in Kurdistān. The painted decoration in black and sometimes in red comprises mostly simple geometrical patterns, such as wavy lines, 'triglyphs', 'laddered' bands, lozenges, etc., carelessly executed. But in 20, Pl. XIV, parts of figures of two birds appear, and on 14, Pl. XV, probably a pair of horns. Among mouldings occur 'keels', annular ribs, sometimes notched cable-wise or 'thumbed'. An example of a short open spout is seen on 15, Pl. XV. Flint 'blades' were found at different depths of the trench.

Successive heavy downpours rendered work in the soft soil of the mound increasingly difficult and in the end nearly swamped our camp. So on the second day of our stay I let the Surveyor probe somewhat less soaked soil on low swelling ground some 500 yards off to the north, where graves had been reported. The painted sherds found

there show distinctly bolder designs (see 12, 17, 18, Pl. XV), the use of red paint being frequent. A small cylindrical stone seal from the same place (9, Pl. XV) is engraved with a geometrical design. On what appeared to have been the stone flooring of a dwelling there were unearthed two much corroded broken iron sickles (13, Pl. XV). Though struck at a depth of less than 2 feet from the surface, their association with the painted pottery appeared probable.

Section v—Through Delfān to Kirmānshāh

When the rain had turned the ground where our camp stood into a bog of tenacious mud and stopped work on the mound itself, I used the interval for a reconnaissance into the adjacent portion of the Delfān tract to the south-west. There the firm ground of well-drained valleys would lessen such trouble from any further rain as would have to be faced by us on the heavily irrigated and partly water-logged lower portion of Khāwa. After following down the united streams of Khāwa and Chāwarī for 6 miles below Kafrāch, the head of the picturesque Badawar valley was reached, and just there, where the wide river-bed is joined by a lively rivulet from the south-east, I found the small conical mound known as *Mauyilbak*. I had learned of it as a site prospected some time before by antique seekers from Hamadān. Their burrowings had only scraped the surface here and there, but fragments of painted ware could be picked up in plenty on the steep slopes.

On May 16th, while our camp was being moved to the foot of the Mauyilbak mound, I visited the hamlet of

Dum-awēza, about 1½ miles to the south, close to the new motor track opened from Khurramābād to Harsīn and Kirmānshāh. The dwellings of Lūrs of the Nūr Alī tribe, newly settled here, had been dug half underground into a small mound, and a great portion of this had been levelled down in the course of the operation. Fortunately some of the pottery dug up by the settlers was preserved for household use, and I was thus able to secure half a dozen complete vessels of which specimens are reproduced in 21, 22, Pl. XV; 8, 10, XXIX. Apart from those painted with geometrical designs akin to the Mauyilbak ware, the small pots without bases are of interest on account of the archaic shapes. The small bronze ladle (20, Pl. XV) and a bronze ring from a buckle (?) (19, Pl. XV) had also been found here.

But a far more important acquisition made here was the fine copper dish, Pl. XVI, decorated in relief with radiating lily-like flowers round a central boss and a chased floral ornament. Its owner declared he had received it from a settler in Chāwarī who had dug it up in a mound. This well-preserved object shows a style unmistakably influenced by classical workmanship and, by comparison with similar dishes both in metal and pottery, has been recognized by competent experts of the British Museum as probably a Near-Eastern product of the 6th or 7th century B.C. It is likely to have found its way to this north-western corner of Lūristān by the great trade route from Mesopotamia into Media which passes comparatively near it.

The trial excavation carried on during our five days' stay of Mauyilbak was also attended by interesting results. As seen in the Sketch Plan 19 (p. 281), the mound is a small

one, rising very steeply above the left bank of the lively rivulet of Gachīna and close to its junction with the much larger stream of Khāwa. This enters here the narrow valley of Badawar and, after winding round the high Sar-kashtī range, falls into the Saimareh or Kara-su river. From its position at the head of the valley the mound is also known as Chighā-i-pusht-i-Badawar. It measures some 60 yards in diameter at its base and rises to 50 feet above the bank of the rivulet, but some 10 feet less above the terrace-like ground which adjoins it on the west. Owing to its steepness the mound appears to have served as a convenient place for defence throughout the time of its occupation. Wall foundations of stone traced for some lengths at different elevations support this belief.

Two trial trenches were cut, one in six sections down on the south slope from a height of about 35 feet to near the terrace level. It was subsequently enlarged to the west; another was cut extending the same distance to the south-east (vii-xi) at a height from 30 feet to 15 feet. The depth reached varied from 6 feet in section i to 11 feet in vi. Before proceeding to a record of the burials which present the chief interest of the finds at this site, a few remarks may be made on the general character of the remains brought to light, mainly in the shape of broken pottery. The fact of this ceramic ware showing no essential difference in material, shape or decoration from the vessels found in the funerary deposits seems to prove that the burials with their deposits belong to the same period, probably prolonged, during which the site was occupied and the strata of the mound formed.

The prevailing body of the ware is of terracotta colour,

buff being found in about one-fourth of the pieces. The dressing applied varies from red to ivory buff and light buff, nearly white. A dark grey body, ordinarily ribbed and of great hardness, is rare. Painted decoration is applied generally in black, but red is used on ivory-coloured pieces. The patterns used are of a simple geometrical type, such as wavy lines, cross-hatchings, lozenges, 'thorn-fringes', etc. On examples dressed with dark ivory buff, linear treatment in 'ladders' and arched forms is common (for specimens see 1, 3, 8-10, Pl. XVII; 31, 35, XVIII; 17, XXVIII). Forms of animals and a bird are seen in 31, 42-44, 46, Pl. XVIII. A band of red-brown is used in 36, Pl. XVIII, in addition to the black design.

In the shape of vessels the 'Nihāwand' type is frequent, as is to be expected at a site so near to that tract. As seen in 1, 4-6, Pl. XXIX, the lower part, bulbous or echinus, appears to be joined to the upper concave one with a pronounced rib or 'keel'. There are found also shallow bowls (1, 2, Pl. XVII; 3, XXIX), three-footed jars (6, Pl. XVII), single-handled mugs (8, Pl. XVII; 46, XVIII; 6, XXIX) and other shapes. Spouts are rare; the example with an open channel (10, Pl. XVII; 17, XXVIII) is of special interest as showing a distinct relationship to a type frequent at Hasanlū and other sites near Lake Urūmīyeh.[1] Fragments of figurines of animals are seen in 33, 34, Pl. XVIII; 32 is a gargoyle-like spout. While bronze objects were recovered with buried bodies, only two worked flints were found.

All burial deposits discovered were found at a depth of about 3 feet. The first was disclosed in section ii and

[1] See below, Chap. VII, sec. ii.

comprised two bodies (Fig. 89), both much decayed and incomplete, laid approximately east to west. The head of the larger body, *a*, which, from the ornaments found with it, could be recognized as a woman, and from its complete set of teeth as young, was turned northwards. Only one femur bone, 18 inches long, was found; it lay broken into two parts, partly overlapping, as seen in Fig. 89. Nothing could be found of the other parts of this leg or of the right leg. The rest of the body was greatly perished. On each side of the head stood a very small mug like 46, Pl. XVIII, both empty, perhaps once holding water. On the right stood two slightly smaller tripod pots (45, Pl. XVIII), of which the second held small animal bones. More such bones lay near it. A small jar of interesting shape (3, Pl. XVII) held no recognizable contents.

Below the place of the legs of this body, *a*, were found two pairs of massive bronze rings (39, Pl. XVIII) with a diameter of about 5 inches, weighing 430 and 678 grammes, and 433 and 719 grammes respectively. Judging from their size and weight they could scarcely have been meant for wear as anklets, but more likely represent currency deposited for use in another life. The interesting large globular jar, 10, Pl. XVII, with spout and a bull's head on the connexion between rim and spout was found at a depth of 2 feet in section iii; it shows an old break at the mouth. Whether it belonged to the same funerary furniture is uncertain. But three small shallow bowls (1, 2, Pl. XVII; 3, XXIX), one of them raised on three loop-feet, undoubtedly formed part of it.

Before giving details of the many ornaments on the

breast and below the head of body *a*, reference must be made to the body *b*, laid to the woman's right. It was that of a smaller person, also much decayed, perhaps a female servant. There were legs, but the feet had completely perished. The arms were apparently laid across the breast. An unpainted small jar stood at the head without recognizable contents. There were no ornaments on the body. Could it have been that of a slave buried with the body of her mistress ?

From the latter's breast were recovered a large number of beads (see Pl. XVIII), of carnelian, frit, marbled glass (23) and bronze. The carnelian beads are mostly bi-cones (1, 2, 6, 10, 18, 19, 21, 26), the frit and glass spherical, the bronze tubular (3, 4, 11, 12, 14). Some beads retain iron wire on which they had been threaded (19, 26). There is a lozenge-shaped bead or pendant of white frit crossed with black bands (5, Pl. XVIII). It is threaded with a wire of copper or bronze, which is coiled where it leaves the hole and formed into a bar. From below the head came a considerable number of beads, carnelian, glass, copper and shell (15, 16, 25). The last consist mainly of small thin disks (15). The only glass bead is a flattened bi-cone, transparent green (8). The beads still retain some of the copper wire stringing (6, 23). There was also a small flake of obsidian. To the necklace had belonged a small plain cylinder of alabaster (?), 24, and four cylinder seals. Two of these, of white frit-like material and alabaster respectively, are incised, one with a simple lattice (22), the other with a device too damaged to make out (29).

The other two cylinders are of more interest. One (28, Pl. XVIII), more than 1 inch long, made of frit with

traces of glaze, shows a bearded archer kneeling on one knee ready to discharge an arrow at a running horned beast. Between archer and beast is a six-rayed sun and in front of the beast a crescent. The other cylinder seal (30, Pl. XVIII) is of the same material and with the same subject differently designed. It is threaded on a copper wire which is attached to a transverse tube made of coiled wire. The designs of both these cylinders, clearly of Assyrian origin, have been recognized by Mr. C. J. Gadd of the British Museum as representing a type belonging to the period of 9th-8th century B.C. They thus help to fix a definite *terminus post quem* for this burial.

A second burial was disclosed in section iv at a depth of 4 feet. Three large flat slabs covered the body apparently of an aged male, lying from east to west and the head to south (Fig. 90). The knees were bent, the feet crossed and the arms laid across the breast. Two large broken pots lay to the right of the head and breast. The one next to the head was decorated with three moulded bands, notched cable-wise, and painted with hachured lozenges above a 'keel' (5, Pl. XXIX). The other held a small painted pot (4, Pl. XVII). Of five more vessels lying near the legs a painted and rather squat bulbous pot is seen in 9, Pl. XVII.

A third burial was discovered in section xi at a depth of 6 feet. It was the body of a small child, placed under stone slabs apparently of a flooring or wall foundation. A small broken jar lay near the head, another by its breast. Four small thin bronze rings (27, Pl. XVIII) were recovered from the body. There still remains to be specially noted a nest of half a dozen small vessels found in section i, at a depth of 5 feet, in what ashes and burnt earth indicated

to have been a kiln. Stone slabs had been laid above it probably for a floor of a later dwelling (Fig. 91). Several of the jars found here (5-7, Pl. XVII; 41, XVIII) showed damage in antiquity, or faintly painted designs suggesting imperfect burning. One foot of the tripod jar (6, Pl. XVII) was found detached together with fragments of what evidently were ' wasters '.

The chronological evidence furnished by the cylinder seals from the burial in section ii makes it very probable that the burials as well as the occupation of the Mauyilbak mound date from the same late Kassite period to which apparently the majority of the ' Lūristān bronzes ' belong. Hence a close comparison of the ceramic remains here found with those from the sites of Kazābād, Chighā-pahan and Girairān might, perhaps, be attended by useful results. But this task may well be left for the present to others.

During the busy days while our camp stood at Mauyil-bak Muḥammad Ayūb Khān had usefully extended our survey northward to the high plateau of Chāwarī and the encircling great range with peaks rising to close on 10,000 feet. He had done equally useful topographical work, too, in the adjacent part of Delfān to the south-east. The mounds of Chighā-Farhād and Chighā-Kambar, reported in the latter direction towards the ground we had crossed on our way to Alishtar, lay too far off to be visited now. But I managed to get away from the digging for a ride to Sinjāwī, the principal hamlet of Chāwarī which is reckoned as a part of Delfān. Close to it on the rolling peneplain situated at an elevation of some 6400 feet, I found a very conspicuous mound known as Chighā-māwī.

It rises to fully 50 feet above the level of the adjacent fields, cultivated with the help of rainfall and snow only. But its flat top was found to be covered with the debris of stone structures of no great age, and the single painted sherd we could pick up on the slopes offered no adequate inducement for a trial excavation. All the same, in view of its size, the mound might well attract the attention of some excavator of the future. A group of old cairn-marked graves to which I was taken some 3 miles down the Badawar valley all proved to have been already searched for bronzes, and the alleged proceeds sold to Harsīn people, the regular suppliers of the Kirmānshāh market.

The entrance to the Badawar valley, quite close to the Mauyilbak mound, had been chosen for the seat of Sarhaddār Asadullah Khān, the 'Hākim' or governor put in charge of the Delfān valleys since the local Lūr tribes, only a couple of years or so before, had been reduced to a rough sort of order and settled life. Being an active and well-informed official he proved a very pleasant neighbour. He had become acquainted in 1913-14, while attached to the Perso-Turkish Boundary Commission, with several British officers, including Captain (now Sir) Arnold Wilson. From the acquaintance he then had acquired of Persian Kurdistān I was able to gather useful information about the high valleys I hoped to visit in the summer.

It was a satisfactory proof of the barometer of tribal conditions standing at 'fair', anyhow for the time being, to find the Hākim's newly built quarters unprotected against serious attack, and also that, apart from some Lūr men-at-arms, there was to be seen there only a

single regular soldier, a young conscript in neat uniform. The latter belonged to a well-to-do Nihāwand family and was thus set free from the drill, etc., of two years' military service and was making himself useful as a clerk (a sensible arrangement I observed elsewhere also). Asadullah Khān had interesting stories to tell of the methods by which troublesome Lūr leaders in Delfān had been brought to heel. Among them was the intelligent headman of Dum-awēza who helped us in looking after our diggers and who not so long ago had been a distinguished bandit leader commanding fifty armed men.

When I told the Sarhaddār, on the occasion of a visit he paid to my camp for dinner, of my eager wish to find at least one typical grave of the *damb* kind with 'Lūristān bronzes' which had escaped being rifled for the antique market, he proposed to accompany me to Sar-kashtī, a place in a valley to the south-west where, he knew, many such graves had been searched, but where a few, as he thought, might still be found untouched. I gladly availed myself of the offered guidance, and on the morning of May 23rd we set out for Sar-kashtī. The route led first up a broad partly cultivated valley to some fine springs near the hamlet of Ja'farābād. Some old trees, a rare sight in these parts, on a low spur above it mark the spot where a saintly lady is believed to have lived.

Then ascending broad down-like slopes, after a 9-mile march, we reached the basin at the head of the valley known as Sarāb-ghar. In spite of its elevation of about 6800 feet it holds a cluster of little newly built hamlets. In its centre there rises a conspicuous mound to a height of about 60 feet, measuring some 140 yards in diameter

at its base. On its south side some digging had been done for dwellings, and in the earth thrown out I picked up some painted sherds showing distinct resemblance in type to the ware found at Mauyilbak. So here, too, early occupation about the first millennium B.C. was proved.

An ascent of another 500 feet brought us to the watershed on the Anjīrak pass, from which a very impressive view was obtained towards the grand massif of the Kōh-i-Parau far away to the north-west, and a boldly serrated range before it and nearer, marking the watershed between Delfān and the Harsīn tract. In a conspicuous peak on this Muḥammad Ayūb and myself could not fail to recognize the first point of the area around Kirmānshāh where we could pick up a link with ground properly mapped during the war by the Survey of India. Of course we were quite prepared after months of travel over difficult unsurveyed ground, where trigonometrically fixed points had not been available, to find our position on the plane-table considerably ' out '.

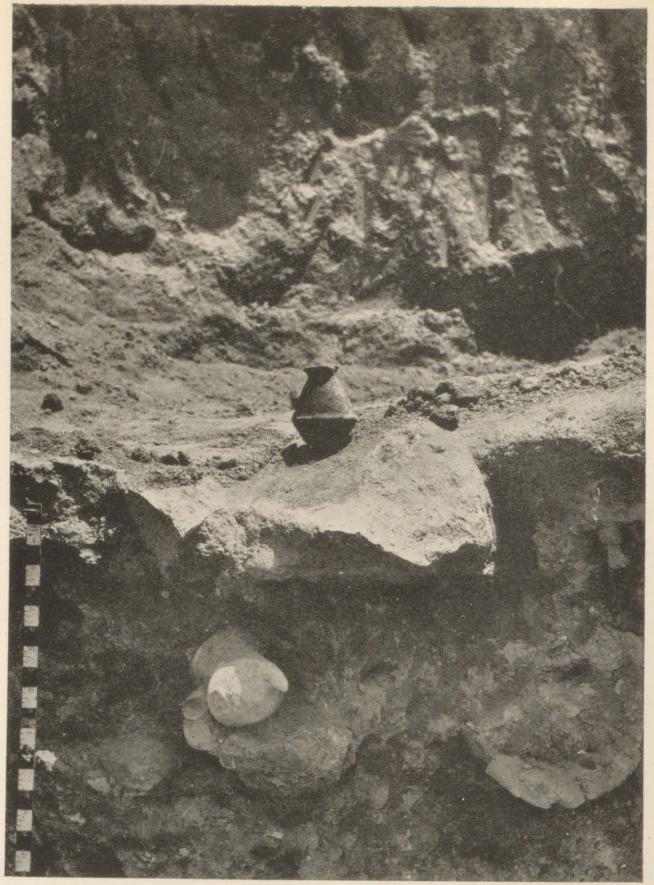
A very steep and troublesome descent where the rolling uplands at the head of the Sarāb-ghar break off in conglomerate cliffs brought us down into a wide valley descending from the Hiyūn pass by which, I was told, the ground above the Tang-i-Gau-shumār can be gained. On the way down to the stream draining this valley I noticed on a small spur numerous dug-up graves and remains of rough walls forming an enclosure similar to that seen at Qal'a-i-gaurī and looking as if meant to protect an encampment.[2] Then, crossing the stream, we moved up westwards to another spur, partly cultivated and known

[2] See above, p. 258.

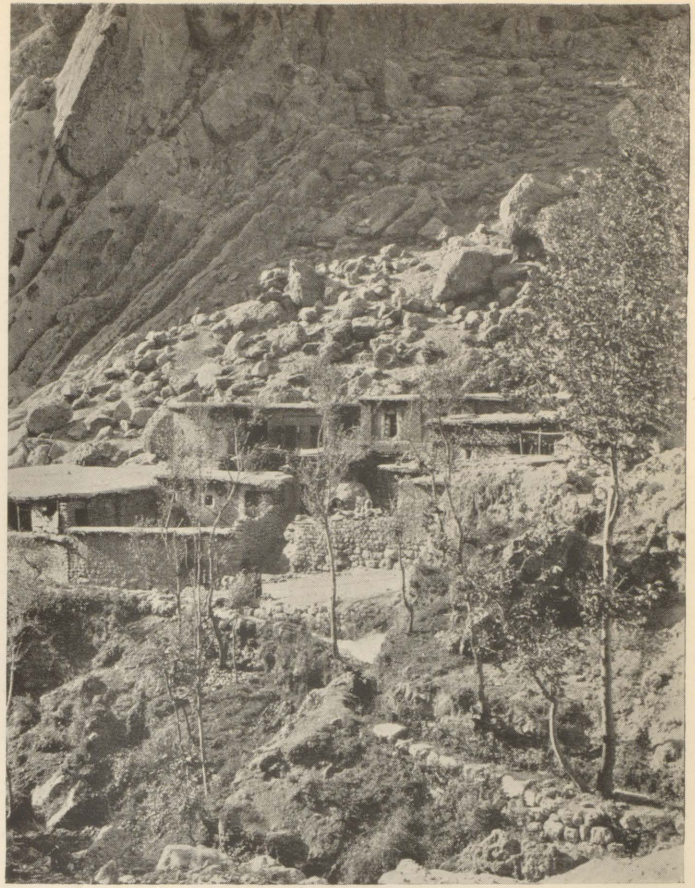
as Sar-kashtī, on the opposite side of the valley.

There, below and around a newly settled hamlet, a considerable number of old graves could be seen together with lines of ruined low walls marking rough enclosures. But all of the graves had been opened and searched. Camp was pitched above the hamlet, and next morning parties were sent out under the Hākim's orders to look for any old graves that might have remained unopened. Good rewards were promised by me for any that might be discovered near by or in the vicinity. But I did not feel altogether surprised when the search, in which I joined myself later, proved unavailing in the end. It became only too clear how thorough had been the proceedings carried on here under stimulation from Harsīn.

While our camp stood at Sar-kashtī, Muḥammad Ayūb Khān was able to do a very useful day's work by climbing along the crest of the range to the south, rising to peaks of 8700 feet, and thence connecting our survey over parts of Delfān with the work done on the way to Alishtar. He found the legend of Noah's ark in its Islamic version, which accounts for the name of *Sar-kashtī* ('Ship's Height') given to the range as a whole, localized at a small lakelet close to one of those peaks. Owing to its peculiar position the lakelet is likely to have been an object of local worship long before Islām came to affect the religious notions of Lūrs—anyhow, on the surface. I regret not having ascertained on the spot what the connexion may be between the legend of the lakelet and the shrine of Bāba Buzurg, the 'Great Saint', a much frequented place of pilgrimage, below it on the other side of the range.



91. ANCIENT KILN DEPOSIT, MAUYILBAK MOUND



92. UPPER END OF KARIND TOWN



93. LŪRS IN CAMP AT SAR-KASHTĪ



94. CUT ROCK FACE ABOVE SPRING, HARSĪN

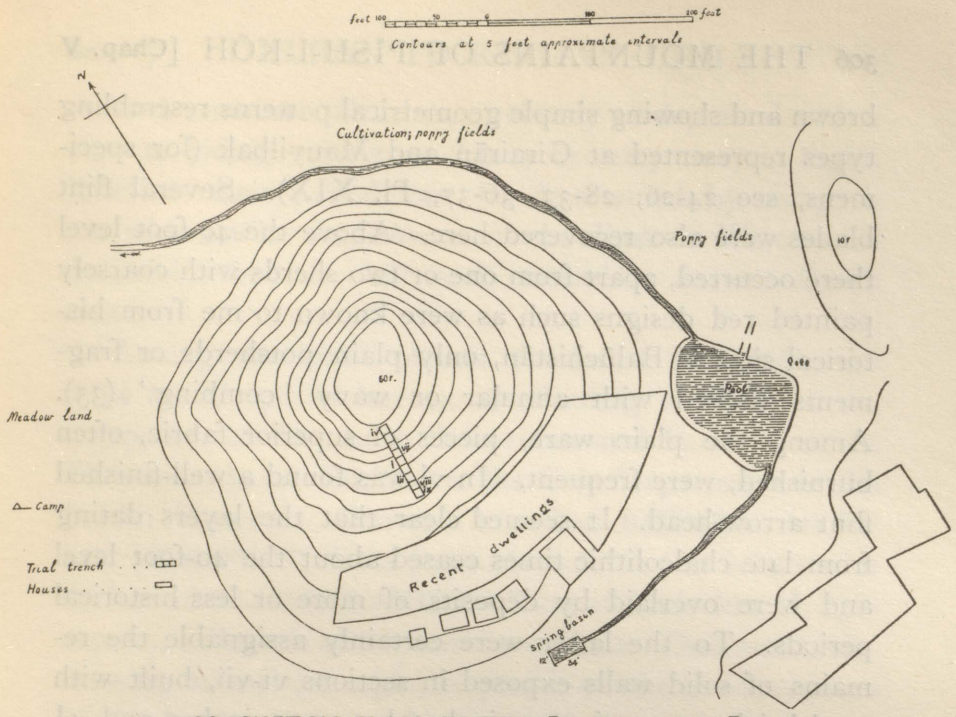
At Sar-kashtī it was of interest to watch how the Lūrs when within the reach of official eyes manage to modify or disguise their inherited traditional habits. We had there found the hovels recently built by order and intended for permanent occupation to be quite deserted. The vermin sharing their warmth and shelter were declared to the Hākim to have made them quite uninhabitable for the time being. The Lūrs' black woollen tents, so well suited for a migratory life, and their much prized possessions had all been burnt under compulsion—or else safely hidden away in the mountains. Only the reed-woven screens used for the doors of the ' black tents ' and also for dividing the interior into separate little compartments had been spared. Half a mile farther up on the spur, within small enclosures improvised by means of such screens, we now found the two dozen or so of families sheltering from the sun and the wind (Fig. 93). It means a hard change for these people from the accustomed comfort of their tents. So it was scarcely surprising to learn from the Surveyor that he had come upon bundles of those black tents carefully camouflaged under heaps of scrub and straw in ravines. For years to come the official eye, if wise, will have to be shut to such practices.

There were practical reasons for hastening our approach to Kirmānshāh, and also for sparing time for the Harsīn tract to be passed on the way. So, on the 20-mile march which on May 25th took us first down to where the stream draining the northern slopes of Sar-kashtī joins the Badawar stream, and then north under the flanks of the conspicuous isolated peak of Wīzān, I had to content myself with a cursory examination of two small mounds

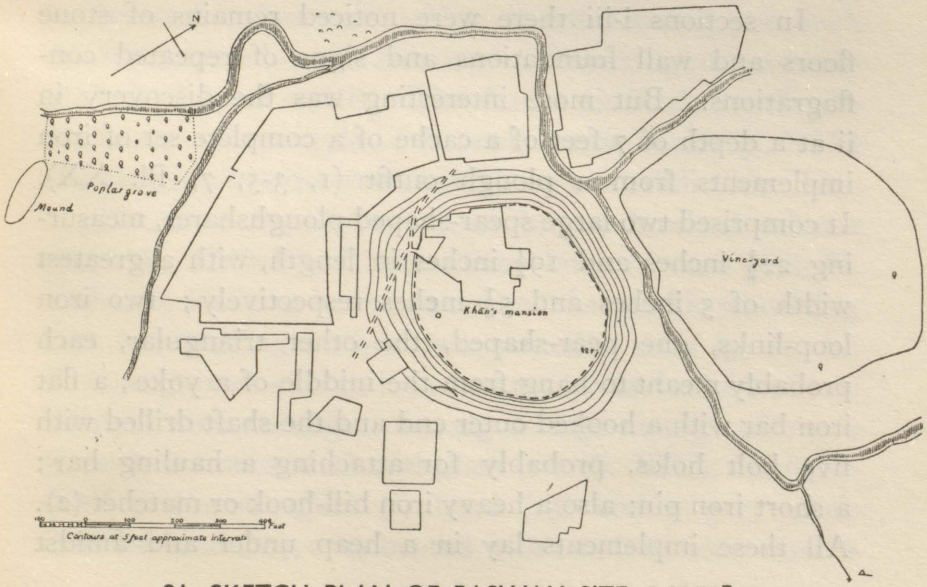
passed on the way, both rising to about 15 feet. On the one near the hamlet of Parī, 3 miles below Sar-kashtī, some glazed Muhammadan sherds were found and also two worked flints. Occupation down to medieval times was similarly indicated also at the mound of Gulistān, seen near the hamlet of Tüyāru, some 11 miles farther on.

At the close of the day's march we reached, at an elevation of 6000 feet, the hamlet of Telyāb, recently settled close to a fine, stone-lined spring filling a large pool with its limpid water. Immediately above this there rises a large mound, some 170 yards in diameter at its base, to a height of 62 feet (see Fig. 88 ; Plan 20). A report of it received by me previously had induced me to take this route to Harsīn instead of the somewhat shorter one by Tarāzak south of the Wīzān peak. The dwellings of the hamlet had been built against and partly into the southern foot of the mound. A number of small antiques, dug up in the course of this building or else picked up on the slopes, were brought to me on arrival. Among them were copper coins which I could recognize as Seleucidan, besides some small bronze articles, beads and stone seals. So I decided on a trial excavation. Owing to the scanty labour available, a trench was opened first only in three sections, i-iii, from a 40-foot level downwards. After having been cut to a depth of 7-8 feet it was subsequently extended in sections iv-vii to the top and in sections viii-ix downwards.

Finds of painted ceramic ware were confined mainly to the deeper layers of sections i-iii. They comprised sherds mostly of terracotta body painted in black or red-



20. SKETCH PLAN OF TELYĀB SITE, DELFĀN



21. SKETCH PLAN OF PASWAH SITE, LAHIJĀN

brown and showing simple geometrical patterns resembling types represented at Girairān and Mauyilbak (for specimens, see 24-26, 28-33, 36-37, Pl. XIX). Several flint blades were also recovered here. Above the 40-foot level there occurred, apart from one or two sherds with coarsely painted red designs such as were known to me from historical sites of Balūchistān, only plain potsherds or fragments incised with annular or wavy 'combing' (35). Among the plain ware, pieces of superior fabric, often burnished, were frequent. In vi was found a well-finished flint arrow-head. It seemed clear that the layers dating from late chalcolithic times ceased about the 40-foot level and were overlaid by deposits of more or less historical periods. To the latter were certainly assignable the remains of solid walls exposed in sections vi-vii, built with mud bricks measuring 20 inches by 10-12 inches and $4\frac{1}{2}$ inches thick.

In sections i-iii there were noticed remains of stone floors and wall foundations and signs of repeated conflagrations. But more interesting was the discovery in ii at a depth of 7 feet of a cache of a complete set of iron implements from a plough outfit (1, 3-5, 7, Pl. XX). It comprised two large spear-shaped ploughshares, measuring $22\frac{1}{2}$ inches and $19\frac{1}{2}$ inches in length, with a greatest width of 5 inches and $5\frac{1}{2}$ inches respectively; two iron loop-links, one pear-shaped, the other triangular, each probably meant to hang from the middle of a yoke; a flat iron bar with a hooked outer end and the shaft drilled with five bolt holes, probably for attaching a hauling bar; a short iron pin; also a heavy iron bill-hook or matchet (2). All these implements lay in a heap under and amidst

charred remains and ashes, obviously as deposited with a view to hiding objects too heavy to carry away in flight. Whether their period can be determined by comparison with similar implements in the East or West seems doubtful; but the bill-hook resembles ancient Greek ones.

Among the small objects purchased at Telyāb, the coins are of special interest as affording evidence of the occupation of the site in Seleucidan and Parthian times. They have been identified at the Coin Department of the British Museum. One coin inscribed ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ [ΤΙΜΑΡΧΟΥ] dates from 162 B.C.; seven others with the legend ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ are of Antiochus II, 138-129 B.C. There is also a coin from Chios. One more coin, showing an owl (or eagle) in profile on the obverse, bears an Arabic inscription. Much earlier in origin is a small bronze plate (4, Pl. XIX), perhaps from a belt or strap, ornamented in low relief with a deer in fawning pose with the head turned backwards and upwards, against a background of floral scrolls. The design distinctly recalls the Scythian 'animal style'. A small bronze buckle (3, XIX) and part of a bronze ornament (1) are more difficult to date.

The same applies to a cast bronze bowl of echinus shape (9, Pl. XX). Three stone 'button' seals (6-8, Pl. XIX) are likely to have come from chalcolithic strata dug into for dwellings, while two carnelian seals (5, 11, Pl. XIX) engraved with an ibex and a deer device look of late classical workmanship. Among a large number of beads of various stones, shell and glass (see Pl. XIX), an eight-sided prismatic agate (?) bead (15) and a grey stone cylinder bead (17), ornamented with bands of dots, deserve

mention. The shell bead, 16, is drilled with two transverse holes and was used as a 'spreader' for two strings. The cylinder seal showing a fully armed archer wearing a kilt and aiming at a winged beast (12) is manifestly of Mesopotamian workmanship. The stone seal (10) has a deeply cut device not clearly visible but apparently showing a large bird standing on framework.

At a number of places in the vicinity of Telyāb there were to be seen old graves of the *damb* type, but all had been opened and searched. On the last day of my stay at Telyāb I visited a reported burial site on the high spurs of Chāl-khulām, about 1000 feet above the valley. The large stones which were supposed to mark graves proved everywhere on clearing to be an outcrop of natural rock. But digging had been done before at a number of other places of this kind, showing how eager the search for 'Lūristān bronzes' had been hereabout.

On May 29th a short and easy march carried us from the rim of the Delfān uplands across the broad saddle of the Dā'ūd pass, 6400 feet above the sea, down into the open valley of Harsīn. The fine view of the Kōh-i-Parau massif rising in the background made me realize how close we were now drawing to well-known ground crossed by the great highroad from Baghdād to Hamadān. The change as we descended towards Harsīn, past well-tilled fields, was striking. Though its people are still Lūrs in speech and appearance, with traces of the traditional outlook, we found Harsīn to be quite a small town, ensconced amidst luxuriant orchards and groves of fine plane trees. Nature had made it easy for civilization, as distinct from

semi-nomadic Lūr ways, to secure here a footing during the last few decades.

Under the cliffs of a bare limestone ridge at the foot of the high range trending towards Bisitūn there gushes forth a magnificent spring, almost like the head of a river. Divided at this *sar-āb* (' Head of the Waters '), it feeds half a dozen canals cascading down the stony slopes and lined by rows of tall, closely-planted plane trees. Their abundant flow of delightfully limpid water carries fertility all the way down the broad valley far beyond the belt of orchards and vineyards. A wide portion of the rock wall below which issues the great spring had been cut down and smoothed as if for a large relievo inscription or sculpture (Fig. 94). But the work had never been completed. Below it is seen a large circular basin cut from the live rock as if for a fountain.

On the day of arrival our tents had been pitched on a bare gravel terrace just above the level of the spring, the only space available for a camp. But here, at an elevation of 5300 feet, the heat in the daytime became trying. So, when searching next morning for a cooler place to halt in, I was glad by a shady canal side to come upon a fine mansion built in the traditional Persian fashion. It had been built years before by the last chief holding power in Harsīn, and not very long before he engaged in intrigues against the new regime, which had begun to make its control felt from Kirmānshāh in an unwonted fashion. The result of a petty rising in the traditional Lūr style was the capture and execution of the chief, and Khairullah Khān, his eldest son, much reduced in estate, had transferred his household to a less lordly abode. He was now anxious to

sell the mansion for official occupation by the local Deputy Governor, and in view of this had put the place into the best possible order.

Permission for temporary occupation was soon obtained after I had agreed to the escort, muleteers and *hoc genus omne* remaining outside under canvas. So I found myself soon quartered in a delightfully airy room with a shady verandah on either side. From one I looked out on a rushing stream lined by leafy plane trees, recalling a Kashmīr scene. On the other side the eye could rest on a small walled garden laid out with bright beds of flowers and traversed by a little, murmuring rill. Beneath the main rooms there stretched a long barrel-vaulted gallery, kept cool by another lively rivulet, to live in during the summer heat. The whole suggested comfort and ease, strangely contrasting with what abodes we had seen for the last three months or so—and equally also with the tawdry stuccoed imitations of ' Europe ' villas, quite unsuited to the climate, I was to see in the modern ' Khiābāns ' of Kirmānshāh.

Under such pleasant aspect my stay at Harsīn, short as it was, proved very refreshing. One day was spent on a long ride which allowed me to inspect the few old sites traceable in the Harsīn valley. A small mound within the town, occupied by a ruinous, half-demolished fort, is probably ancient, but it is too much built over for examination. A couple of *chighās* to the south proved natural terraces. At the Qal'a-i-Minūchihr, on a rocky ridge rising near the small village of Rayagān, some 7 miles to the south-west of the town, there could be found, in spite of its legendary designation, only remains of a rough circumvallation and sherds of the Islamic period.

After regaining Harsīn town by a devious and more northerly route over bare plateaus I visited reported old remains near the village of Chighā-sai about 2 miles to the east. On a small natural hillock about 50 feet high, there could be picked up many sherds of terracotta or dark grey body, some burnished, and among them painted fragments with simple geometrical patterns (21-23, 27, 34, Pl. XIX) pointing to occupation about the same early period as at Girairān. Ancient occupation was indicated also by foundations of walls built with large undressed blocks of stone traceable on the top of the hillock over parts of a rectangular space of about 48 by 33 yards. Painted sherds were found embedded in the thick mud walls of a modern half-decayed fort occupying part of the top. Signs of much digging were to be seen on the slopes below, in places, perhaps, in search of graves, but mostly for the sake of earth to make mud bricks with.

A day of halt offered a welcome opportunity for perusing the huge postal accumulations of five weeks which had reached me at Harsīn from the Kirmānshāh Consulate. Among them were heavy packets of proof sheets of my *Archaeological Reconnaissances* then passing through the Oxford University Press. There was thus at hand enough work to keep me busy for a couple of weeks. So there was reason to feel glad that Kirmānshāh and the hospitable roof of the British Consulate was now near.

On June 2nd a long march took me down the Harsīn valley to the Gamāsiāb (or Gamāsh-āb) river, a chief tributary of the Saimareh, or Kara-su as it is called above and below Kirmānshāh. At a point above its left bank, near the village of Surkh-deh, I was able after a stiff

climb up a steep rocky spur to inspect a small rock-cut tomb which seemed to have escaped earlier notice. It measures 5½ feet by 4 feet with a height of 3 feet, and has a recessed opening with rebates inside for door slabs. It may date from Achaemenian times, but there is neither an inscription nor architectural decoration to permit of an exact determination of age. After crossing the Gamāsiāb we halted that night in the well-cultivated plain which extends from the bold rocky hill face of Bisitūn, guarding the gate to the great central plateau of ancient Media, down to Kirmānshāh.

Next day, after discharging the escort which had attended us faithfully for three and a half months, we moved along the old track which so many European travellers of bygone times had followed. It was pleasant to be able to avoid thus the dust and smell of the heavy traffic passing along the present motor road. Turning off south from the old caravan road some 6 miles before reaching the outskirts of Kirmānshāh, I visited near the village of Gākia a mound which rises to a height of 25 feet above an adjacent dry bed and measures some 130 yards in diameter. Painted sherds, also plain ones of fine greyish ware dressed terracotta and burnished, could be picked up on the surface, along with plenty of worked flints, all proving early occupation. About 1½ miles farther on, where a spring and a modest 'Chai-khāneh' invites the traveller by the old track, I noticed a low mound about 180 yards in diameter. No potsherds were found on it, but the many flint blades left no doubt about the antiquity of this small site, which may deserve attention hereafter.

Then the Kara-su was crossed on a high-arched bridge

looking like a bit of old times, and under a hot sun the road led past the eastern outskirts of Kirmānshāh town up to the British Consulate standing high in a spacious 'compound' on the hillside. It all reminded me of the happy approach to Chīnī-bāgh, the familiar and ever hospitable Central-Asian base which used to receive me so often far away at Kāshgar.

CHAPTER VI

THROUGH PERSIAN KURDISTĀN

SECTION I—AT KIRMĀNSHĀH AND SENNEH

THE welcome accorded to me at Kirmānshāh by Mr. Charles A. Gault, the young acting British Consul, was the kindest. His stimulating company and the comfort with which his delightful hospitality surrounded me made me feel all through my twelve days' stay as if I were back in England. The Kirmānshāh Consulate is a spacious building, the best of its kind I have seen in Īrān, and completely refitted after having been sacked by the Turks early in the War, it provides a very attractive residence. What personally I appreciated perhaps most was the large well-lit room on the upper storey in which I could work undisturbed from early morning till evening, except for meal-times. It was a special comfort, too, to have easy access to the contents of all my mule-trunks laid out in a wide loggia near by. There the repairs they all needed after rough travel through the valleys and hills of Lūristān could be attended to without trouble under adequate supervision.

Muḥammad Ayūb Khān, the Surveyor, was provided with suitable accommodation in what had been at one time the quarters of the Consular Guard supplied from the

Indian Army. He could thus, while busy at work on tracings, etc., of the survey sheets, attend to the direction of the many repairs which our tents and other camp equipment badly called for. The tents, well made as always by the Elgin Mills, Cawnpore, owing to the damp condition in which they had ordinarily to be packed up after the frequent rain and heavy dew, had suffered a great deal more than they ever had before during my travels in such delectably arid regions as Turkistān and Balūchistān.

So attention to many repairs and other practical tasks absorbed a great deal of time. Nor could the safe packing of the cases containing antiquities for their future transport to London be neglected. Apart from all this work, what kept me most busy was the final revision of the detailed report on my journey in Fārs, 1933–4. Reproductions of the many photographs, plans and plates which were to illustrate it had only just arrived, and to ensure its timely publication in the October number of *Iraq* meant work at high pressure, having regard to the distance separating me from the Oxford University Press. Fortunately there was the courier with the diplomatic mail bag from Tehrān passing weekly to ensure quick transmission to Baghdād.

Relaxation from such miscellaneous tasks was afforded by short walks in the evening. These generally took me along one or another of the broad newly laid out 'Khiābāns' which lead up from the crowded old part of the town to the foot of the hills, mostly bare, overlooking Kirmānshāh from the south. Canals from *qanāts* carry water to the little private gardens lining these avenues, and in the shallow ravines by their sides are ensconced small but

luxuriant orchards watered by springs in the folds of the hills. It was in these avenues that half the population of Kirmānshāh was to be seen taking the air in the evenings. To watch the promenading groups and the gentry driving in crowded ' droschkes ' was interesting.

The order issued from on high at the beginning of the year that women were no longer to be seen veiled had found Kirmānshāh better prepared for the great social change probably than smaller places. To give due effect to the westernizing intention of the law as far as women's costume was concerned was, of course, not easy. Those of the lower middle classes still kept mostly to the traditional cloak-like dress of black, but with faces no longer half-hidden by folds, while others now displayed brilliantly coloured garments before meant only for indoor wear.

Striking, but far less pleasing, was the effect produced by the European costumes to be seen on ladies higher up in the social scale. Apart from often quite incongruous hats, it was curious to observe the loss of all colour sense as attested by garments combined in the most discordant of analine dyes. I had had occasion to observe the same sad loss years ago in the strange mixture of crude colours which the old carpet industry of Khotan had adopted since analine dyes had reached Chinese Turkistān. Anyhow there was no mistaking the rapidity and extent of the change thus displayed. It was bound to be doubly striking to anyone familiar with conservative Indian ways. It would be interesting to know if and in what manner Hellenistic fashion of Seleucid times had affected Persian womanhood.

After a twelve days' stay, enjoyable and refreshing in

spite of the 'rush' of tasks, I was able to take leave from my kind host on June 16th. Kirmānshāh had not yet been getting too warm indoors. All the same I was eager to proceed direct to Senneh town, the headquarters of the Kurdistān province. There, in accordance with my sanctioned programme, I hoped to be able during the summer months to continue work in the field on ground sufficiently high to permit this. I knew that preliminary arrangements with the provincial authorities, military as well as civil, would take some time. A sufficiently long halt had also to be allowed for the careful revision of the big bundle of proofs which I was obliged to carry with me as yet untouched owing to other urgent work.

Regard for the length of this halt and that at Kirmānshāh had induced me for reasons of economy to discharge on arrival there the Shīrāzī mule transport. It was an arrangement which, I confess, I had subsequently occasion to regret. Anyhow there was time to be saved by doing the journey to Senneh by motor. As usual after a long halt, our start was late. So the seven hours' drive needed to cover 87 miles of hilly road to Senneh was rather a hot one. Soon after leaving Kirmānshāh town and its modern varnish behind I had an opportunity of renewing my acquaintance of 1932 with the great rock-cut hall of Tāq-i-Bostān crowded with Sasanian relievos and overlooking a magnificent spring. This monument of the latest phase of Sasanian sculptural art with its fine rock-carved panels representing King Khusrau Parwīz amidst hunting scenes has often been described, and the decipherment of the Pahlawī inscriptions in an adjacent hall by Silvestre de

Sacy in 1793 was the first great achievement of Iranian philology.[1]

Our drive, uneventful all through, took us by a well-laid road first through open valleys drained by the northernmost headwaters of the Kara-su and then across the pass of Marwārī, close on 7000 feet high, into narrower valleys which the Gāweh-rūd drains towards the Tigris. The mountains looked all bare, but showed picturesque forms and pleasing tints of brown and light pink under a cloudless sky of deep blue. On reaching Senneh in the evening we were lucky enough to direct our lorry and car straight to the only place that could offer a fairly shaded and cool camping-place. It was the old garden adjoining a fine palace-like mansion known as Khusrāwābād and situated on a small plateau about half a mile to the south of the lively little town (Fig. 96). It takes its name from one of the once hereditary, and at times semi-independent, Wālīs of Kurdistān, whose son Amānullah built it at the beginning of the last century. It was in the same garden that Rich had placed his camp when visiting Senneh on his memorable journey through Kurdistān in 1820.[2]

The palace still stands, though in a rather shaky condition; but the family to which the last descendant of the Wālīs had sold it is now in reduced circumstances. Thus the large garden had been laid out into fields, and most of the fine old trees along its main avenue, once spreading

[1] For a full description of the famous rock sculptures and references to earlier accounts, see Curzon, *Persia*, i. pp. 560 sqq.; also Sarre und Herzfeld, *Iranische Felsreliefs*, pp. 199 sqq., Abb. 92-98.

[2] See Rich, *Narrative of a Residence in Kurdistān*, i. p. 199; for an earlier visit to Senneh paid by General Malcolm's mission in 1810, see Kinneir, *Geographical Memoir of the Persian Empire*, p. 144.



95. MOUND WITHIN SAQIZ TOWN



96. MANSION OF KHUSRĀWĀBĀD, SENNEH

their shade over fountains in stone-lined basins, had been cut down for fuel. Under the trees of a small orchard planted by the side of what was left of the avenue we managed to find just enough space to pitch our tents. There, fairly protected from noise and heat, it was possible for me to turn a long halt imposed by unforeseen delays to good account by getting through a lot of writing of a pressing nature connected with my *Archaeological Reconnaissances*.

Busy as my fortnight's stay at Senneh was, it did not owe its length solely to the amount of work I had to dispose of. There were difficulties to contend with about the arrangements for my proposed travel in the province. These were raised by the General Officer Commanding in Kurdistān, the same who in November 1932 had seriously hampered my work in Kermān. At first the demand was made that my moves should be made by motor and restricted to one or two roads away from the Perso-Irāq frontier. When I had fully explained that this kind of travel would give no chance of finding and examining as yet unknown ancient remains, the objection was shifted to the impossibility of providing the needful large escort. Intermittent absences of the General on visits of inspection to posts on the frontier also caused delays.

Fortunately the Civil Governor of the province, H.E. Prince Shahāb-ud-dauleh, son of a former Minister at the Court of St. James's under the late Kajār dynasty, took an enlightened interest in my plea for reasonable freedom of movement, and for his effective friendly help I have reason to feel very grateful. Taking his stand on the formally sanctioned programme for my journey as

communicated by circular orders from Tehrān he succeeded in the end in securing the General's assent to the tour as sketched out in consultation with himself. It was to take me with mule transport along the main roads traversing the higher parts in the north of the province, the only ones which could attract me in the heat of the summer months. It was also to allow me to visit any localities in their neighbourhood where ancient remains might be looked for.

As Prince Shahāb-ud-dauleh commands a perfect knowledge of English, the formal application explaining my programme in detail could fortunately be written out by myself. But repeated visits on the part of ever-willing M. Karīmī, our Inspector of Antiquities, had to be paid to both Governor and General before the written approval of my programme was secured and definite instructions issued about the gendarmerie escort. To my special satisfaction it was to consist of only five mounted men, anyhow as far as Saqiz, the first place of any importance in the north.

On July 1st I paid my farewell visit to H.E., the kindly Governor whose interest in my scientific aims had proved so helpful, and then on the eve of my departure took leave also from my pleasant hosts, A'zāz-ul-mulk and his four brothers, joint owners of the old palace and garden. I used the occasion also to take photographs of groups of their nice-looking children who enlivened the place now slowly going to ruin. Like most of the children in the town, the little girls and boys looked quite European.

When we started on the morning of July 2nd with sixteen newly engaged mules and two ponies, our immediate goal was Diwān-darra, a small military post some 50 miles

to the north. Though our route led on the first march across the Kara-khaya pass, over 7000 feet in height, and then over peneplains rising to 6000 feet and more, the heat of the daytime had to be reckoned with, and also the total absence of shade between the small halting-places on the way. Travel in full daylight was necessary for the plane-table work, here resumed on ground very imperfectly mapped so far. In spite of early rising and the easy road across undulating ground it was not possible to get over the day's march with the baggage before midday. So the journey had to be divided into four short stages. It was an arrangement for which both M. Karīmī and my fox-terrier, 'Dash VI', the faithful canine companion of my Persian travels, were grateful; for unaccustomed to marches in the height of summer both had just objections to the strong sun beating down from a cloudless sky after the first hours of the morning.

Fortunately it was dry heat all through this wide region which knows no rain for five months or so after May, and water in Kurdistān is easily found by the wayside. The heavy snowfall of the winter and early spring feeds many perennial springs on this high ground, and wherever the plateaus are broken by eroded valleys, whether shallow or fairly deep, there are sure to be small watercourses to refresh men and beasts. Cultivation is possible all over this portion of the uplands of Persian Kurdistān without irrigation. This is obviously due to the thick mantle of snow which covers them in the winter and leaves enough moisture behind in the soil. Poor as is the soil, except near the beds of the streams, it supports a plentiful growth of grasses and low scrub. To see this cut for hay within

reach of the hamlets passed was a sign of the severe winter climate and also of the settled conditions of life in these parts.

The hamlets by the road, Kara-gul, Bakhlābād, Zāgheh, where we halted, were all small, but all had their little orchards, and the dwellings built with mud walls showed a state of settled life far advanced from that noticed in Lūristān. Yet hamlets were rare, and the population very scanty, in comparison with the cultivable ground, a circumstance for which the trying cold of the winter may help to account. Judging from the total absence of mounds the conditions in ancient times could scarcely have been very different. Most of the vegetation by the roadside had by now withered under the hot rays of the sun, but the eye was often refreshed by the sight of tall white or purple hollyhocks and some high yellow-flowering scrub.

After crossing the headwaters of the Kizil-uzun river which finds its way ultimately into the Caspian we ascended a gently sloping valley of a tributary stream to Diwān-darra. At this modest village, situated at an elevation of 5900 feet, and boasting of a small detachment of troops to guard the route leading to Saqiz and beyond to Ādharbaijān, a halt of two days was imposed. It was necessary to arrange here for a guard of Kurd 'Tufangchis' or local men-at-arms to strengthen our escort for my intended visit to the caves of Karafto which are far from the motor road. It was pleasant to find the Sultān (Captain) holding charge of the tract as Nā'ib-Hukūmat, a kind of Political Officer, a lively and intelligent officer, ready to afford the guidance and help for which I had been advised at Senneh to apply. A grove of old willows and poplars

by the stream some distance below the village offered a fit camping-place. By dodging from tree to tree as the sun moved it was possible to catch some fresh air and escape the heat of my small tent. Old occupation of the Diwāndarra site is proved by a mound rising within a hollow above the left bank of the stream ; but as it is honeycombed with dwellings dug into it, no examination of the debris layers composing it was possible.

On July 7th, the second day of our stay, I proceeded to visit a ruined stronghold, known as Qal'a-kōhneh (' Old Fort '). It was reached after ascending to a rolling down to the north-east and then moving down in a shallow cultivated nullah. There, near the hamlet of Kārēz, I found a small mound, about 12 feet high and measuring some 60 yards in diameter. The scanty potsherds on the surface, all plain, furnished no indication as to the period of occupation. Descending first to the broad and well-cultivated *thalweg* of the Kizil-uzun and then turning northward into a side valley above the hamlet of Nasārehkūchik we came after 7 miles to the Qal'a-kōhneh, known from a find of coins reported by villagers also as Qal'a-khazīneh (' Fort of Treasure '). It is an isolated ridge rising steeply to a height about 120 feet above a ravine holding a spring and thick tree growth. Its top, which slopes gently towards the east, has a width of about 40 yards. Among the potsherds found on the ridge there were several decorated with annular or wavy incised lines. The fragment of a dish incised and glazed over bluish-green, indicated occupation down to Muhammadan times. Another fragment of dark ware showing an impressed design of circle and dots pointed to the same dating.

Section II—THE CAVES OF KARAFTO

On July 8th we set out for the caves of Karafto. I was particularly anxious to examine them on account of a Greek inscription which Sir Robert Ker Porter, the first visitor to this interesting site, had seen in 1818 and copied as well as it was possible for a non-epigraphist to do, but, as it proved, very imperfectly. Dr. W. Tarn, a great authority on all that concerns the Hellenistic age in the Middle East, had specially called my attention to those caves and their inscription ; for the definite mention in the latter of Herakles had suggested to him that a sanctuary sacred to some divinity identified with Herakles was to be looked for there or in the vicinity. Now a passage in the *Annals* of Tacitus (xii. xiii) dealing with a Roman move under the Emperor Claudius against the Parthians tells of a curious legend connected with a sanctuary of Heracles on a mountain called Sanbulos. This had not yet been satisfactorily located, but might well have been situated, so that eminent scholar thought, in some hill tract of Kurdistān.

Our start was delayed, for the corporal in charge of the escort, on learning that Karafto lay far off from the motor road to Saqiz, declared that his instructions would allow him to move only along the road to Saqiz. This objection, whether made under instructions from a higher military authority or otherwise, could fortunately be overcome by telephonic reference to the Civil Governor's written order made through the obliging ' Sultān ' when he had been roused from his sleep. The sun stood high by the time we left the motor road at the small hamlet of Za'farābād to make our way due north, over a wide peneplain broken by

erosion nullahs, to the village to Kasnazān. Here there were no trees to provide shade for our tents, and there was only one tolerably level spot for them close to the village. To the heat of the afternoon was added the discomfort of a plague of flies. But we were now on the plateau of Hubātu, close on 7000 feet above the sea and renowned for its health-giving air; so the night was refreshingly cool.

The five Kurd men-at-arms had joined us before leaving Kasnazān. Quite a picturesque lot they looked and well fed too, being accustomed to being hospitably entertained wherever their errands took them. At one time or another of their roving life some of them, including the leader, appeared to have led the more independent life of bandits. The march of close on 20 miles which brought us to Karafto village led almost the whole way over a featureless grassy plateau with limestone layers cropping out near shallow drainage beds. But even here patches of cultivation were to be seen, and near springs several hamlets were passed. Owing to the only guide having remained behind at one of these with M. Karīmī for a treat we nearly lost our way. All the more pleasant it was when at last we dropped down unexpectedly into the narrow valley in which Karafto village lies hidden. It belongs to a well-to-do young lord of the manor. Azīzullah Khān, acquainted with such places as Senneh, Kirmānshāh and Tabrīz, had built himself a comfortable house and laid out a young vineyard and orchard alongside the lively little stream. He gave us a hospitable welcome, and arranged for what supplies our large party would need during a stay at the caves.

On the morning of July 10th we proceeded to the caves, descending by the stream for about 4 miles between steep rocky hill sides. Where the valley turns due north and widens at the small hamlet of Ma'sūdābād, the plateau breaks off into bold picturesque ridges of yellowish limestone. Two of these came prominently into view to the north-east, facing each other across an open valley. The one on the northern side, rising with almost vertical cliffs to a height of about 500 feet, holds the caves (Fig. 97). These are recognizable from afar by the great openings which towards the middle of the ridge give light to their man-hewn portions. After ascending to the foot of the cliffs we found a small spring issuing under a large overhanging rock and producing some verdure. But there was no space for pitching tents, though debris from roughly built stone walls showed that small dwellings had stood here at one time; so our camp had to be pitched on the lower slope of the opposite ridge.

No time was then lost for a preliminary inspection of the caves. They had been visited in 1818 by Sir Robert Ker Porter, who gave an elaborate, if somewhat romantically inspired, description of their natural features.[1] Sir Henry Rawlinson had in 1838 also paid a visit to Karafto, and in his account had taken occasion to rectify certain details in the former description.[2] A special archaeological interest is imparted to the grottoes by the historical notice which the proper interpretation of the Greek inscription already referred to allows us to connect with the site. This makes it necessary for me farther on to record in detail

[1] See Ker Porter, *Travels in Georgia, Persia, etc.* ii. pp. 541 sqq.
[2] See Rawlinson, *J.R.G.S.*, x. (1841) p. 45.



97. SOUTHERN FACE OF CLIFFS HOLDING CAVES OF KARAFTO
Arrow marks position of rock-cut rooms *a-c*



98. ESTAMPAGE OF GREEK INSCRIPTION, KARAFTO CAVES



99. GREEK INSCRIPTION OVER LINTEL OF ENTRANCE TO ROOM *A*, KARAFTO CAVES

the results of the survey I was able to make during my three days' stay, particularly of those features of the caves which are due to the work of man. But before proceeding to such antiquarian details it will be useful to note the essential facts as revealed by a first visit to the caves.

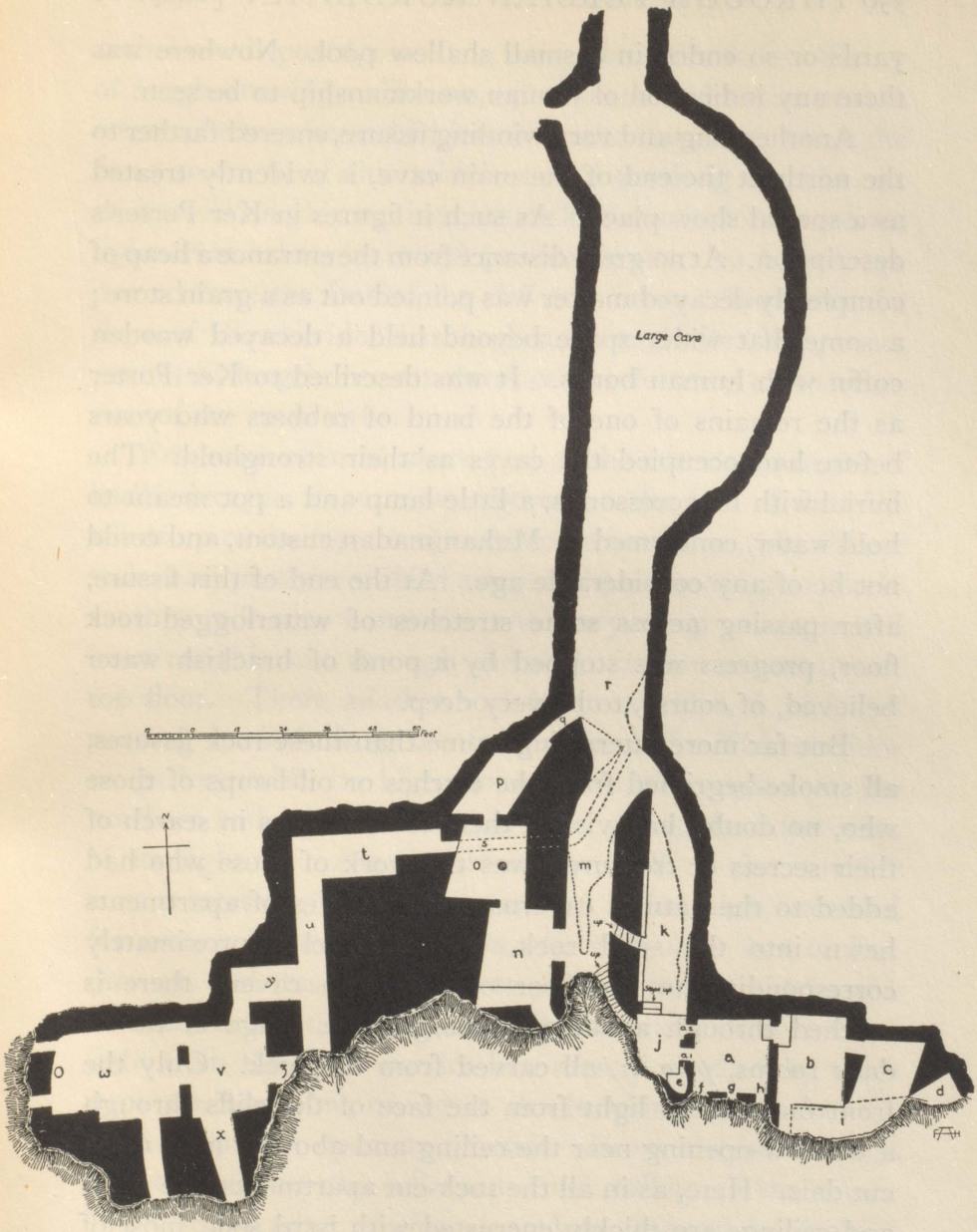
The caves are reached by an extremely steep climb of about 150 feet from the foot of the cliffs. The last 30 feet or so have to be done up a precipitous rock face over ledges only a few inches wide, or else by clambering up an almost vertical rock couloir. Luckily the laminated limestone gives a firm grip for hands and feet, and with the help of two local Kurds, who scale these precipices barefooted like wild goats, the ascent could be made without excessive risk. The face of the cliffs has probably fallen off to some extent where the entrance to the lowest row of the caves is now gained (see Plan 22). But even before this it is certain that the caves, owing to the difficulty of the only approach, must have provided an unassailable place of refuge. It had sheltered a band of robbers before Ker Porter's visit, and according to local tradition on later occasions also.

It is probable that this entrance, marked by the remnant of a small portico, *z*, hewn by the hand of man, was originally a natural fissure of the rock. From it access opens on the left to two large halls, *v*, *w*, cut into the rock, while straight on a long vaulted gallery, *u*, leads to an upper storey containing the largest of the caves, mainly natural. After passing up the gallery beyond the point *t*, where it takes a sharp turn from approximate north to east, we found it narrowed (*s*) to only about 3 feet. It is so filled by dust and detritus from above that we had to bend very low to avoid knocking our heads against the rock ceiling. This

long, winding and quite dark passage, about 64 feet long, seemed partly natural.

On emerging from the darkness we found ourselves at the lower end of a dimly lit rift, *r*, unmistakably natural, leading up to a great cavern, also natural. This widens from about 20 feet to some 40 feet towards the end, about 128 feet on, where it branches into two narrow fissures. Before this point was reached the roof of the cavern was no longer visible, it being beyond the reach of the light penetrating from the two porticoes to be presently mentioned and the glimmer provided by our three hurricane lanterns. The roughness of the rock walls on either side, which had deep indentations and crevices, left no doubt about this main cave (Ker Porter's 'circular hall') being as a whole the work of Nature, though near the entrance some smoothing down of the lower rock face could be noticed, as well as some small niches irregularly cut for lamps. The effect of this great natural nave was much increased by the height of the arched ceiling, which could scarcely be less than 50 feet.

The winding rifts branching off at the northern end of the main cavern have probably at all times exercised popular imagination even more than the great natural hall and the excavations done by the hand of man. Our local guides were eager to show us these fissures, and the rare chance of seeing their mysteries by the light of our lanterns had induced quite a little crowd from two neighbouring hamlets to the south to follow in our footsteps. The first rift branching off to the north-west and often narrowing to less than 5 feet in width and 3-4 feet in height, turned after some 150 yards northward and after another 100



22. SKETCH PLAN OF KARAFTO CAVES

yards or so ended in a small shallow pool. Nowhere was there any indication of human workmanship to be seen.

Another long and very winding fissure, entered farther to the north at the end of the main cave, is evidently treated as a special show place. As such it figures in Ker Porter's description. At no great distance from the entrance a heap of completely decayed matter was pointed out as a grain store; a somewhat wider space beyond held a decayed wooden coffin with human bones. It was described to Ker Porter as the remains of one of the band of robbers who years before had occupied the caves as their stronghold. The burial with its accessories, a little lamp and a pot meant to hold water, conformed to Muhammadan custom, and could not be of any considerable age. At the end of this fissure, after passing across some stretches of waterlogged rock floor, progress was stopped by a pond of brackish water believed, of course, to be very deep.

But far more interesting to me than these rock fissures, all smoke-begrimed from the torches or oil lamps of those who, no doubt, had visited them for centuries in search of their secrets or treasures, was the work of those who had added to the natural caverns quite a series of apartments hewn into the solid rock. On a level approximately corresponding to the floor of the main cavern there is reached through a narrow passage, *q*, a range of rather dark rooms, *p*, *o*, *n*, all carved from the rock. Only the front one admits light from the face of the cliffs through a window opening near the ceiling and above a high rock-cut dais. Here, as in all the rock-cut apartments, the walls and ceilings are thickly encrusted with hard soot, most of it, no doubt, deposited from small oil lamps for which little

niches are disposed, mostly in rows, along the walls. Plenty of rough drawings of horses, open hands and similar marks were to be seen scratched into or under the soot. From the front room, *n*, of this middle storey the long corridor, *m*, with walls roughly cut into the rock, is reached. It receives light from where a raised portico appears to have been carved from the face of the cliff now fallen. Similarly the floor of the corridor has broken through for the greater part of its length into a natural cavern forming a continuation of the main cave.

From the open southern end of the corridor a flight of badly decayed steps, now exposed on the face of the cliff, winds up to the top storey. At some later time, when these stairs had partly crumbled away and become risky to climb, as they still are, a narrow and very steep passage had been roughly cut through the rock to give access to the top floor. There another rock-hewn corridor, *k*, is found running inwards from the face of the cliff. This corridor or gallery with its high pointed vaulting opens at the northern end towards the main cave, giving the latter most of its lighting. Along the western wall of the corridor runs a recess, 15 inches deep and 16 inches high, intended for seats. Here too, as in *m*, the rock floor has broken through and thus helps now to provide more light for the southern end of the main cave. The corridor itself receives light from the small portico-like room *j*, reached by three steps up, and now, owing to the breaking off of the cliff face, completely open on that side. From it a distant view is obtained over the hills and small valleys to the south. The outside edge of this airy place falls off in a sheer precipice. At its south-east corner there survives part of

a small cabinet-like space, *e*, raised about 4 feet higher. It is carved into the rock wall which separates the portico from room *a*, the first of a suite of apartments forming the top floor of the grottoes.

On the portion of the rock which forms the lintel over the entrance to room *a*, as seen in Fig. 99, I found to my joy the Greek inscription, evidently still in the same state as Ker Porter had seen it 120 years ago. This inscription, close on $3\frac{1}{2}$ feet long, comprises two lines of large but slightly incised Greek uncial characters and forms the chief interest of the site. It will be found fully discussed further on in a valuable note which Mr. Marcus N. Todd, Fellow of Oriel College, Oxford, and a distinguished authority on Greek epigraphy, has had the kindness to furnish, his reading being based on one of the inked estampages I was able to secure (Fig. 98).

There was no soot crust to obscure the inscription—obviously the open portico was no place to light fires in; yet the difficulty previously experienced about correctly reading it from Ker Porter's eye copy became more clear when I noticed that at the right-hand end of the inscription a later hand had scratched over the Greek characters a figure meant for some mount and the crude representation of a rider. I felt sure that the inked paper estampages I was able to take would make it possible to replace uncertain restorations from Ker Porter's imperfect copy by a correct reading. Meanwhile the appearance of certain characters from a palaeographic point of view sufficed to make it probable even to my non-expert eye that the inscription dated from early Hellenistic times.

Naturally I was led by the inscription on the portal to

examine with special interest the suite of rock-cut apartments entered beyond it. The first two, *a*, *b*, are large rectangular apartments (*a* measuring 20 feet 10 inches by 21 feet 4 inches; *b* 22 feet 11 inches by 20 feet 5 inches), hewn with evident care and roofed with high barrel vaultings, about 14 feet high. Room *a* has three windows opening on the south face of the cliff. One in the south-west corner, *f*, is high up, and the rock beneath it has fallen away. But a grooved lintel remains, and a hole on one side seems to have been meant for securing a closing bar. The middle window, *g*, is surmounted by a double moulding, the upper one showing a row of small roundels and the lower one a row of projecting billets. The third window, *h*, is situated over a broad shelf, and above it is a pivot-hole, evidently intended for a shutter. At the entrance, a^1, surmounted outside by the Greek inscription, it was of interest to note a pivot hole cut into the thickness of the rock on the left and a recess on the right for a bar to rest on. These showed that there was a door intended to be closed from within. Curiously enough there is seen in the rock a narrow slit which passes from the small cabinet-like space *e* into this doorway. The second doorway, a^2, is less carefully cut through the rock, and may be of later date. It appears to have had a door meant to be secured from outside, but the method used for locking it is not clear, nor the object of the second entrance.

The north wall of room *a* has, high up, six niches for small lamps, and there are six more lower down on the southern portion of the east wall. Into the floor below the latter there is cut an oblong groove as if meant to secure a screen. Numerous shallow holes of more or less circular

shape attract attention on the floor of room *a*; they are quite irregularly disposed, and vary considerably in size. They obviously served for placing pots of different sizes, and prove that at one, perhaps later, time this room had been used as a cooking-place. A small shallow drain passing outside under the doorway, a^1, was probably connected with this use. Two air holes, one placed high up in the south-west corner and another above the doorway, a^1, obviously served to carry off smoke. In numerous places on the walls of this room and also of rooms *b* and *n* could be seen old smoke-begrimed graffiti, showing roughly-drawn figures of horses with or without riders, or else of hands with outspread fingers. Owing to the hard crust of soot covering these scratched figures they differed distinctly from the short inscriptions in cursive Arabic characters that had been scratched through the black crust into the rock and showed up white. None of these latter records, left by visitors, showed dates older than about a century. The figures of horses and riders closely resembled that found scratched over the Greek inscription.

The doorway leading from *a* into *b* is approached on both sides over large raised door-steps. That the door was meant to be closed from the inside is shown by pivot-holes for a single door both above and below on the right and by a recess for a bar cut into the rock on the left. From the south-west corner of *b* a passage opens into an outer apartment, *i*. This, owing to the breaking off of the rock face, has now the appearance of an open verandah, but at its western end it still shows the remains of a narrow window-like opening 7 feet above the floor-level. The rock wall between *a* and *i* has for the most part broken

down. The next room, *c*, of irregular quadrangular shape, has never been completed. Its rock walls are not smoothed and its flat ceiling rises only to 8½ feet from the floor. The entrance from *b* seems to be only a natural fissure in the rock, roughly enlarged. The cutting of a fourth room, *d*, appears to have been commenced, but never completed. Owing to the crumbling off of the rock face it could be reached only by stepping over a gap at the end of *i*.

Before discussing the light which the Greek inscription over the entrance of room *a* throws on the original character of the grottoes as a whole, there remain some details to be noted as regards the other excavated apartments. In the western wall of the corridor *k* the great length of the rock-carved recess, 35 feet 6 inches, meant for seats 15 inches deep and raised 16 inches above the floor, deserves special notice. It certainly looks as if intended for a number of persons assembled for admittance to the raised portico *j*. In no other parts of the grottoes can such special seating accommodation be found. Noteworthy, too, is the curving wall space in the raised cabinet *e*, and the narrow slit by which it communicates with the inside of the doorway into *a*.

The hall *n* on the middle floor, measuring 26 feet 5 inches by 19 feet 5 inches where widest, has at its southern end a raised dais, and high above it a window 5 feet wide which provides ample light. The ceiling is formed by a rather flat vaulting, rising to about 15 feet. Apart from small recesses in the wall meant to hold little lamps, such as are found in all the grottoes, a large niche near the centre of the west wall, about 2 feet high and 2 feet wide, attracts attention by its shape. Its stepped sides roughly

reproduce the sectional outlines of a *ziggurat*, the traditional form of Mesopotamian temples since early Sumerian times. As a decorative motif those outlines appear, of course, in architecture down to comparatively late periods. In the adjoining room, *o*, only the broken bottom portion, 2 feet in diameter, of a circular rock pillar, once supporting the low roof, calls for mention. In Ker Porter's description it figures as an 'altar', a misapprehension, as already pointed out by Rawlinson.

On the lowest floor of the grottoes is found *w*, the largest of the apartments entirely cut by the hand of man. It measures 34 feet 6 inches by 23 feet 6 inches where widest, and has a slightly curved western end, where two windows opening towards the face of the cliff admit light. Additional lighting is provided by a slanting passage, 18 feet long and 5 feet wide, cut through the rock facing south. The walls of this passage are decorated with many incised lozenge shapes. The flat ceiling of the hall is at a height of about 11 feet. In the middle of the western end of *w* a large circular hole in the floor marks a fireplace.

The hall is entered by two doorways from *v*, a kind of ante-room which has a barrel-vaulted ceiling with a height of about 14 feet. Light is admitted by a rock cutting, *x*, 23 feet long, slanting upwards to the face of the cliff, where it is 5 feet 6 inches wide. Approach to *v* could be gained by openings from the long gallery *u* near its entrance, or else through the passage *y*, now partly blocked by fallen rock debris. The corridor *u*, which on its western wall has a number of niches for lamps, as found also in *v* and *w*, comes to an abrupt end at the south, where a portion of the rock face has fallen. But a large pivot

hole at *z* shows where a gate seems to have stood at one time.

The great extent of the excavations coupled with the mystery-inspiring appearance of the natural caverns and rifts would alone suffice to suggest, as it had to Ker Porter, that this site in the interior of the mountain may have served as a place of worship since very early, possibly prehistoric, times. My visit a little more than a year before to Cumae and those great grottoes of the Sybil near Naples helped to strengthen this impression. It seemed clear that only great sanctity attaching to the site could have led to the immense labour involved in the cutting of all those galleries, halls, etc. But to trace direct evidence of such cult use of the caves might have called for prolonged excavations were it not for the explicit record supplied by the Greek inscription on the spot. As regards the correct interpretation of this epigraphic record, its significant bearing and its approximate dating, I cannot do better than reproduce here the full and precise note on the subject with which Mr. Todd has favoured me:

> The inscription was published by R. Ker Porter in 1822 (*Travels in Georgia, Persia, Armenia, etc.*, ii. 542) and re-edited from his woodcut in 1853 by J. Franz (*Corpus Inscr. Graec.* iii. 4673) in the form
>
> Ἡρακλῇ [προσ]κύ[νημα] - - -
> μη[θ]ὲν - - π[ά]θοι κακόν.
>
> In 1929 Dr. W. W. Tarn attempted a restoration and interpretation of the text (*Classical Review*, xliii. 53 ff.), in which, however, he was misled by the faulty nature of Ker Porter's copy. A few months later he added to his article a postscript (*op. cit.* 125), based on information received from Dr. Adolf Wilhelm, who pointed out that the inscription had been restored by Kaibel (*Epigrammata*

Graeca, p. 512, note on 1138) thus :

Ἡρακλῆς ἐνθάδε κατυκεῖ,
μηθὲν εἰσιαίθω κακόν,

and suggested the following emended version :

Ἡρακλῆ[ς ἐνθά]δε κ[ατοικ]εῖ
μηθὲν [ε]ἰσ[έ]λθοι κακόν.

This suggestion of Wilhelm is fully vindicated by Sir Aurel Stein's rediscovery of the inscription. In his squeeze every letter of the text as so restored is clearly legible.

The inscription is a shortened form of an apotropaic text which appears in full as

Ὁ τοῦ Διὸς παῖς καλλίνικος Ἡρακλῆς
ἐνθάδε κατοικεῖ· μηδὲν εἰσίτω κακόν.

This formula, with numerous variants, is discussed most fully by O. Weinreich in *Archiv für Religionswissenschaft*, xviii. 8 ff. (cf. E. Peterson, Εἷς θεός, 54 note 1). In the Christian period Heracles was frequently replaced by Christ or one of the saints, a phenomenon most recently examined by S. G. Mercati in *Rendiconti della Pont. Accad. Rom.* i. 175 ff., and by W. Deonna in *Revue Archéologique*, xxii. (1925) 66 ff. (See also the literature cited in *Suppl. Epigraph. Graecum*, vii. 812.)

It would be rash to attempt a precise dating of the inscription on the basis of the letter-forms, especially as a number of letters ($\beta, \gamma, \zeta, \xi, \pi, \upsilon, \phi, \chi, \psi, \omega$) are unrepresented; but the use of A with an unbroken cross-bar, of Θ somewhat smaller (as is also O) than the remaining letters and bearing a dot at its centre, and of M and Σ with slightly divergent first and fourth strokes, together with the general impression made by the text as a whole, would suggest its attribution to the close of the fourth or the early part of the third century B.C.

The exact text of the inscription, as first correctly restored by Professor A. Wilhelm and now strikingly confirmed by the squeeze reproduced in Fig. 98, means :

"Here resides Herakles; nothing evil may enter".[3] It reproduces a formula properly applicable only to a place sacred to Herakles or considered under the god's protection. Here this inscription, placed as it is over the entrance to the top flight of the rock-cut apartments, definitely proves that whoever engraved it early in the Hellenistic age, whether a regular resident or a visitor, considered these caves to be sacred to the locally worshipped god whom Greeks knew by the name of Herakles. I shall presently have occasion to discuss the question as to the likely Iranian divinity whom the Greeks were accustomed to identify with Herakles. But before this we must turn to a passage of Tacitus mentioning a shrine of Herakles which, in view of the events accounting for its mention, as Dr. Tarn was the first to point out to me, has to be looked for in the direction of the Karafto caves.

The *Annals* of Tacitus, XII. xi. sqq., tell us how Meherdates, a scion of the Arsacid dynasty living as an exile under Roman patronage, was induced by malcontent Parthian feudatories with the approval and support of Rome to attempt to wrest the Parthian throne from King Gotarzes. After having been conducted by a Roman force under the legate of Syria to Zeugma on the Euphrates, Meherdates halted at Edessa (Orfa) and lost time by making a detour into southern Armenia. Finally crossing the Tigris he passed through Adiabene, the territory corresponding to the eastern portion of the present province of Mosul and the adjacent tracts of Irāqī Kurdistān. There

[3] [Since the above was written I was glad to note that the inscription was copied and reproduced by Rawlinson in a form more correct than that of Ker Porter upon which the earlier restorations were based: see *J.R.G.S.*, x. p. 100.]

he captured Ninos, or Ninive, and Arbela, the present Erbil. "Meanwhile Gotarzes at the mountain called Sanbulos consulted oracles of the local divinities, in particular of Hercules." Of the latter god we are told that

> "at a given time he directs the priests in the stillness of night that they should put ready near the shrine horses fitted for the chase. The horses after having widely roamed during the night across the woodlands finally return to where they had received quivers full of arrows, with empty quivers and much neighing. Thereupon the god indicates by a nocturnal vision the woods through which he had hunted, and the shot beasts are in due course picked up."

The local legend here recorded presents a folk-lore interest of its own, and provides a striking explanation of the graffiti of horses and riders observed on the Greek inscription and on the walls of the Karafto grottoes. But far more important still for the location of Mount Sanbulos and its shrine of Herakles at Karafto is the evidence afforded by the position of the site. A look at the map shows that the Karafto caves lie in the immediate vicinity of the most direct and easiest route leading from ancient Arbela, then as now the chief place of Adiabene, *via* Qal'a Dīzeh–Sardasht to Saqiz and thence through Tikkantappeh to Zinjān and Hamadān, and so to the central part of Media.

When Gotarzes had to meet an attack based mainly, as that of Meherdates was, on Adiabene, the ruler of which, Izates, was according to Tacitus one of the pretender's chief supporters, he could not have chosen a more suitable place for the defence of vital portions of his empire than where the route from Arbela (Erbil) emerges from the mountains on the great central plateau of Media.

Beyond Karafto the country stretches away quite open both to the east and north, and there the king would be able to use to full effect that force of heavy cavalry and mounted archers which at all times formed the chief strength of Parthian armies.

We are not told exactly where Gotarzes stood while preparing to await the pretender's attack. But it deserves to be noted that only about 15 miles to the north-east of Tikkan-tappeh and 30 miles from the Karafto caves lies the famous ruined fortress known as Takht-i-Sulaimān with massive remains dating back partly to Parthian and Sasanian times. Whatever modern archaeological researches may yet decide as to the tentative identification of this site with an early capital of Atropatene or Little Media and the Ganzaka of Byzantine historians,[4] it is certain that its ruins show that it had been a place of considerable importance as early as Parthian times, and one which might well have served as a base for Gotarzes.

What Tacitus tells of the end of Meherdates' inglorious enterprise sponsored by Rome[5] does not help us to locate definitely the place where, abandoned by Izates and his other supporters and betrayed, he was finally defeated and captured by Gotarzes; for the river Corma, behind which the king is said to have kept while pursuing dilatory tactics, cannot as yet be identified with any certainty.[6] But the location at the grottoes of Karafto of the shrine

[4] As proposed by Rawlinson in his 'Memoir on the Site of the Atropatenian Ecbatana', *J.R.G.S.*, x. pp. 65 sqq.

[5] See *Annals*, XII. xiii.

[6] The identification of the river *Corma* with the Lesser Zab might suggest itself; for this considerable river flowing in a narrow deep-cut bed has to be passed beyond Sardasht by whichever route Saqiz is to be gained from the side of Erbil and Irāqī Kurdistān.

of Herakles mentioned by Tacitus is convincingly established by the concordant evidence of the Greek inscription, the graffiti in the caves and the topographical position of the site.

It is hardly necessary to observe that the depth of the natural caverns with their dark twisting rifts is bound to produce in superstitious minds that sense of mystery which would turn such a locality from very early times into a divine habitation and a place of worship for humans. Its awe-inspiring effect upon the local Kurds is clearly reflected in Ker Porter's account of his visit. That such a cave sanctuary should be sought by the credulous for visions and divine oracles and exploited by priests for dispensing prophecies is fully in keeping with ancient religious practices as illustrated by the Cave of the Sybil and many another sacred grotto in the West.

The question as to the divine horseman who was believed to hunt around Mount Sanbulos and whom the inscription of Karafto, like the legend preserved in the record of Tacitus, calls Herakles, is one of considerable interest for the student of the syncretistic mythology of the Hellenistic age. The inscription on the famous sepulchral monument erected by Antiochos I, king of Commagene, on Nimrūd-dāgh (69–34 B.C.), supplies incontrovertible evidence [7] that the Iranian divinity ordinarily identified with Herakles was Verethraghna of the Avesta, or Ἀρτάγνης in the Greek form of his name, the Bahrām of later Zoroastrian literature. Verethraghna is praised in the fourteenth Yasht of the Avesta as the Genius of

[7] See Cumont, *Textes et monuments figurés relatifs aux mystères de Mithra*, i. pp. 11, 143; ii. p. 89 sq.

Victory, as he who gives strength to armed force, rules the fate of contending armies in battle, and whose decision is to be sought before the contest from omens.[8] He is not described as a rider in the Yasht, but his appearance in the shape of a white horse is referred to (para. 9). On the coins of the Kushān kings he is shown as a warrior on foot with the name of ΟΡΛΑΓΝΟ.

The character of Verethraghna (Herakles) as the Genius of Victory and arbiter in battle would have made application for his oracle on Mount Sanbulos particularly appropriate for Gotarzes in view of the struggle with which he was faced. But the fact of the Herakles of Mount Sanbulos figuring in the local legend related by Tacitus distinctly as a divine hunter on horseback must necessarily draw our attention to the possibility of another Iranian divinity, and one far more widely known later in the West, being meant. This is Mithra, who on relief sculptures of Roman times is frequently represented as a rider engaged in the chase.[9] As regards the question thus raised by the far older inscription of Karafto naming a Herakles I must content myself here with reproducing a note with which M. Franz Cumont, the eminent authority on Hellenistic worship and culture, has kindly favoured me in a letter of August 9th, 1937 :

" L'importance qu'avait dans le culte de Mithra la légende de la chasse du dieu, que l'on figure (évidemment d'après un hymne en son honneur) à cheval, perçant de ses flèches les bêtes

[8] See Darmesteter's translation of the Bahrām Yasht, *Sacred Books of the East*, xxiii. pp. 231 sqq., and particularly paras. 31, 42, 43, 52, 59, 62.

[9] See Cumont, *l.c.*, i. p. 174, and ii. p. 350, on the tenth scene of Mon. 246, the relievo sculpture of Osterburken, where Mithra is represented as a hunter on horseback.

sauvages, n'est apparue que depuis peu. Elle a été révélée par la découverte du Mithréum de Dieburg (Behn, *Das Mithrasheiligtum zu D.*, 1926 ; cf. mon compte-rendu dans le *Journal of Roman Studies*, xvii., 1927, p. 233), puis par les peintures du Mithréum de Doura-Europos (cf. Compte-rendu de l'Académie des Inscriptions, 1934, p. 90 ss. et Rostovtzeff, *Mittheilungen des archaeologischen Instituts in Rom*, 1934). Il est certain que déjà en Asie Mineure Mithra était un cavalier (ce que prouvent les monnaies de Trapezus) et un dieu chasseur, tandis que l'Avesta le représente comme un guerrier oriental monté sur un char. Dès lors il est bien tentant de reconnaître le même Mithra dans l'Héracle mazdéen de Sanbulos dont parle Tacite. Toutefois la divinité iranienne qu'on identifie d'ordinaire avec Héraklès est Verethraghna, et il se pourrait que Mithra, étant devenu en Anatolie le dieu principal des Mages, ait été chanté comme le héros des chasses mystiques, qui dans le mazdéisme orthodoxe étaient celles d'une autre divinité." [10]

Before I give an account of the route which took us down to Saqiz, and which by its very facility and abundant cultivation seemed to offer itself as a very convenient line of advance towards the central plateau of Media, I may briefly refer to what I noted in the immediate surroundings of the caves. On a small plateau below them to the south-east, which overlooks the valley and the stream descending from Maʿsudābād hamlet, there were to be seen ruined dwellings built with stone and mud walls. A small canal, still trace-

[10] [Since the above pages were written, reference has become possible for me to Professor A. von Gutschmid's *Kleine Schriften*, iii. p. 89, as quoted by M. Cumont, *l.c.*, i. p. 143. The paper there reproduced from an article on Gotarzes contributed in 1862 to Ersch and Gruber's *Encyclopaedie*, I Sec., part lxxv. p. 51, shows that that grea scholar, my teacher in 1882–4, had rightly recognized Verethraghna in the Herakles of the Karafto inscription and accepted the location of the shrine mentioned by Tacitus at Karafto, as proposed by Franz in his note on the inscription, *C.I.G.*, No. 4673. Von Gutschmid subsequently abandoned this location in his *Geschichte Irans*, p. 128, published in 1888 after his death.]

able, had brought water to abandoned terrace cultivation nearby. There were no indications pointing to ancient occupation of the small site, but it is the only one in the vicinity where habitations could be traced. Along the foot of the cliffs to the east of the caves there are a number of shallow, open cavities, but their bare rock floor was exposed and showed no sign of former occupation. On the flat top of the ridge some 500 feet above the foot of the cliffs, a distant view was gained across the plateau grazed over by Afshār herdsmen. Near the middle of the top of the ridge we found a small Muhammadan cemetery with stone-framed graves. The only structural remains to be seen were a ruined watch-tower away to the south-east and a large stone heap on the ridge itself, evidently the remains of another.

The two long days I spent in the caves after my first visit had enabled me to prepare with the Surveyor's help a careful plan of all the rock-hewn portions, and to note all the details of man's work recorded above. The delightful coolness of the grottoes made my stay there very pleasant in spite of the strenuous work and the trouble of climbing up and down the rock face below and scrambling through dark passages, etc. Bats and wild pigeons had lived for so long in the great central cavern and the parts near it that their droppings must have added materially to the accumulation of fine detritus, sand and other deposit covering the floor. There was some reason to believe that relics of the ancient cult which the caves are likely to have witnessed through successive periods, perhaps since pre-historic times, might lie hidden below these deposits. But to trace them with adequate care would have required weeks,

if not more, of systematic excavation. Difficult to carry out in any case under the local conditions, they would require also as a preliminary the provision of adequate means for lighting deep recesses, etc., and watching the work. These considerations, as well as regard for my further programme, obliged me reluctantly to leave this task to some future investigator.

It is easy to realize that the caves, whether before or after the hand of man had been applied to them, are likely to have served also as a safe place of refuge in times of danger. This fact, specially important from the local point of view, explains why the site is now known only as 'Qal'a-i-Karafto'.

Section iii—SAQIZ AND LAHIJĀN

While we were still encamped near the caves, the Tufangchis had been recalled by an urgent order from Diwāndarra, apparently owing to some threatening of disorder in the hills to the south-west. Whether from want of this support or under instructions from headquarters, our escort absolutely refused to accompany us across the provincial border to Tikkan-tappeh for the desired visit to Takht-i-Sulaimān.

So on July 13th I started for Saqiz, our next goal westwards. After descending by the stream of Karafto for a couple of miles we struck a much frequented caravan route connecting Saqiz with Tikkan-tappeh and, beyond, with Bijār and Hamadān. It was the same which, as already mentioned, was likely to have been aimed at by Meherdates on his ill-fated campaign. Some distance

farther on, this route is joined by the one passing through Sain-qal'a, which in 1917 had seen the memorable retreat of the warlike 'Assyrian' refugees from the side of Urūmīyeh towards Hamadān. After crossing an easy saddle to the Darrah-i-Pambadān, some 5 miles from the caves, the route led down a fairly wide valley flanking the high plateau of Hubātu from the north. This ground, like the rest from Diwān-darra not previously mapped, proved to contain a good deal of well-cultivated land and numerous small streams draining into the Jaghatu river, a main feeder of Lake Urūmīyeh. Harvesting was proceeding in the fields all along, and the waving, golden shimmer of the wheat crops on the gentle slopes of the valley bottom was pleasing to the eye. At the village of Karanau, where we halted at the end of this first march, a small orchard with ripening apricots afforded just enough shade for our tents during the heat of the afternoon. Here and on the next few marches on ground much lower than that crossed since Senneh the force of the July sun made itself increasingly felt.

Cultivation continued almost the whole way on our next march also, even on the more elevated ground crossed before reaching the wide trough with the large village of Sāhib, where several fertile valleys meet and the motor road from Senneh was struck. A fine spring near the latter with a small terraced orchard afforded a pleasant camping-place. Next morning when we were less than 7 miles from Saqiz, our immediate goal, and as we were engaged in 'fixing' the position of a small hillock by the roadside bearing marks of former occupation, probably medieval, a passing motor car led to an incident un-

pleasantly recalling experiences of November 1932, on my way from Kermān to the Gulf coast. The car contained the district magistrate of Saqiz, who was proceeding with the head of the local police and a couple of others to investigate some village case. The young official, new to his post and eager to demonstrate his loyal zeal, persisted in seizing the plane-table sheet, disregarding my assertion that route surveys on ground as yet unmapped had been carried on by us for years past with the full permission of the Tehrān Government. As our Inspector of Antiquities had moved ahead with the baggage and as the papers in support of that assertion were also ahead with it, I thought it best to let him have the sheet for the time being, under protest.

Saqiz proved, as often in the case of Persian towns, a difficult place in which to find a suitable camping site. The hillsides above the small town were all stony and bare. After a long and weary search we had in the end to pitch our tents in one of the clumps of willow trees growing within the wide inundation bed of the considerable Cham-i-Saqiz. It was infested at all times with swarms of insects. These, together with the heat, at an elevation of 4000 feet, made our stay of four days somewhat trying.

Fortunately the friendly attention by the intelligent officers of the small garrison quartered at this important road junction made up for the first unpleasant impression and subsequent delay. They did not hesitate to express strong disapproval of the conduct of the Nā'ib-hukūmat, who since his recent arrival had made himself thoroughly disliked in the place. On his return to the town he paid a visit of apology to my camp and promised to return the

plane-table sheet at once. The promise, of course, was not kept ; and in the end it needed a peremptory telegram from H.E. the Governor, Prince Shahāb-ud-dauleh, to secure the return of the sheet in due course. Two months later, on my return through Senneh, I heard from His Excellency's own mouth in very forcible English how he had reprimanded his officious subordinate for his conduct.

Delay was caused also by the Colonel Commanding at Saqiz being away on the Irāq border. There was doubt whether a reported irruption of a robber band from the Irāq side would allow him to authorize our visiting Bāneh, three marches away on the main route to Sar-dasht and Erbil. So I thought it best to continue our journey to Sauj-bulagh, the southernmost district of the Urūmīyeh province, which had been included in my original sanctioned programme as the final goal for the summer's work.

As usual, arrangement for a gendarmerie escort took time, headquarters at Urūmīyeh town, now renamed Rizāyeh, having to be consulted as the provincial boundary was to be crossed about half-way. During my stay at Saqiz I had examined a small ruined fort about 1 mile to the south, on rising ground overlooking the river and town. The much decayed circumvallation, about 50 yards square, was proved by pottery debris to date from Islamic times. The mound in the centre of the town (Fig. 95), rising to about 50-60 feet above the natural level, is certainly ancient, but as it is partly occupied by buildings no close examination could be made.

Starting on July 20th, our journey to Sauj-bulagh was made in the course of five easy marches across a succession of plateaus and valleys all draining towards the Urūmīyeh

lake. This ground, like all the area visited farther north, had seen military operations during the world war, having been first overrun by the Turks and subsequently, between 1915 and 1917, occupied for some time by Russian troops. But even before the war most of this area had been properly mapped by Russian survey parties, and so well that no further plane-table work was called for on our part. Nor is there need here to note topographical details.

The fairly well-laid motor track that we followed for most of the route was also due to Russian engineering. The wooden bridges then constructed across the Tatawi river and elsewhere had, of course, since broken down. But fortunately we found that as far as Sauj-bulagh the passing to and fro of foes and friends — the Kurd population of these parts must have found it difficult to make a distinction — had caused here far less damage than farther to the north. Anyhow, the villages we passed seemed all to have fairly recovered.

At Sēra, and again at Burhān, the last stage before Sauj-bulagh, we found pleasant camping-places in large shady orchards, where apricot trees thickly laden with ripening fruit gave a refreshing welcome after hot marches. Even by getting up by 4 A.M. we could not escape exposure later in the morning to a fierce sun blazing down from an ever-blue sky. But the nights were pleasantly cool and kept off a semblance of Indian hot weather feeling. Pleasant, too, was the cordial welcome we received from well-to-do lords of the manor at two of our halting-places, Sēra and Taza-qal'a. Before reaching the latter we passed close to the village of Kara-kanda, a mound rising some 30 feet above the canal at its foot and measuring

about 60 yards long on its flat top. Fragments of roughly painted ware as well as burnished pieces of vessels were picked up at the foot of the mound, proving early occupation.

But neither here nor at another small mound passed at Kul-tappeh, about 3 miles south of the large village of Bukān, was stratigraphic evidence readily obtainable within the limited time available. It was important to reserve sufficient time for the examination of two tracts to the north-west of Sauj-bulagh, Paswah or Lahijān and Ushnū, where a map of M. de Morgan's, sketchy but archaeologically very useful, made some forty years before, marked numerous debris mounds in the valleys. As this area lies at elevations close on 5000 feet, adjoining a high portion of the range forming the border towards Irāqī Kurdistān, it presented an attractive goal for archaeological field-work during the remaining weeks of the summer.

Permission to extend my tour beyond Sauj-bulagh to Paswah and Ushnū had been duly secured from Tehrān by an application made from Senneh. But, of course, local assent had to be obtained also, and this necessitated some halt at Sauj-bulagh, the district headquarters. We arrived there on July 24th after a long, hot ride from Burhān. After descending by a steep, serpentine bridle-path, which was made by the Russians and greatly shortens the motor route, we were approaching the town when we passed quite a succession of huts allocated to poor lepers. It seemed quite a medieval arrangement to deal with an affliction which seems locally prevalent. Fortunately the Wālī or governor of the province came to pay a visit to Sauj-bulagh soon after our arrival, and an interview with

him facilitated arrangements. The Wālī had spent some years as Iranian minister at Kābul and had visited India and also Kashmīr. Perhaps it was due to pleasant recollections of those times that no objection was raised to my approaching so near to the frontier.

But for the need of these arrangements I should gladly have shortened my stay at Sauj-bulagh; for the small town built on terraces above a tributary of the Gādar river is not of old date and has nothing of interest to offer. The two large 'Khiābāns' or boulevards which had been laid out to modernize the place and to introduce some air and rudimentary sanitation into its twisting lanes, still remained flanked mainly by the ruins of pulled down houses. All the available local labour and skilled builders had been absorbed in the construction of a modern cantonment at 'Alīābād, about a mile above the town. The barracks, just about to be completed, looked well planned and solidly built. Neat avenues had been laid out around the rows of pavilions, and large flower-beds between them bore witness to the Persian love of flowers. There can be no doubt that the two years' military service nowadays enforced together with other arrangements in the towns provides a very effective means for gradually raising the standards of housing and cleanliness among the urban population in general.

As usual near towns, it had taken hours of search in the heat of the day before we had found a tolerably shady spot for pitching camp. Sauj-bulagh completely lacks orchards, and where rows of willows or plane trees were to be seen they were all planted along the edges of vineyards. There the narrow ditches, closely aligned, in

which the vines are planted and trained would not leave space to place tents. Nor are the trees planted by the side of irrigation channels ever allowed to grow old before they are cut down for building use. Luckily, though we had in the end to camp by the river-bed, insects were not quite so troublesome and multitudinous as at Saqiz.

It was with a feeling of relief that at last on July 30th a start could be made westwards for Paswah. Clouds had begun to gather the day before, and the march up the valley which the main feeder of the river of Sauj-bulagh drains proved comparatively cool. It brought us past slopes clothed with abundant vegetation, now, alas, all withered by the summer's heat, to a graziers' camp, at an elevation of 6400 feet not far below the Maidān pass. I could well appreciate the advantages enjoyed by the dwellers in tents, the *Khāna-badōsh*, 'those who carry their home on their shoulders'. It felt delightfully cool, with a strong breeze driving clouds from across the high range to the south, and when a brisk shower had descended in the afternoon all senses became revived. We little suspected at the time that the shower, quite unusual at this season, meant a cloud-burst lower down, which destroyed a portion of Sauj-bulagh town with heavy loss of life, and would have swept away our camp where it had stood in the morning.

Next day we descended from the pass, first in an alpine ravine and then in a steadily widening valley towards the open mountain-girt plateau of Lahijān. This is the old name by which this border tract of Persian Kurdistān is properly known. The storm had brought on this side a heavy burst of rain. So we found the Russian-made road, never completed, covered with heavy mud and

detritus and the villagers hard at work repairing broken canals. Lahijān is abundantly watered by small streams which gather in its trough to form the headwaters of the Lesser Zab river. After cutting its winding course farther down through deep gorges the river joins the Tigris far away on the Assyrian plains. Once again I had crossed one of the great watersheds of the Near East. The wide fertile plain, still green at this season, was set off impressively by the Zagros range to the west, rising here to peaks of more than 11,000 feet and still covered by snow in broad streaks.

Qal'a-Paswah, at the north-east edge of the plain and its chief village nowadays, proved well chosen as a base for our survey of the remains of Lahijān (see Sketch Map VI). At the end of the day's march we found an imposingly large mound rising above the village (Fig. 100), proof of the great antiquity of the site, and received a very hearty welcome from Karan Aghā, the aged Kurd chief, head of the Māmish clan of the Mukrī tribe, whose power once extended over the whole of this border tract. His residence, it is true, occupies only a modest portion of the space of the stronghold, now completely decayed, which had extended over the whole of the flat top of the mound nearly one third of a mile in circumference. But the moral authority of the old Khān was still unimpaired, and he himself, in spite of his eighty years or so, was still a fine vigorous figure. Our first talks sufficed to show that he was well informed about 'old places' near or far, and interested in them also. He had much to tell of the troubled fortunes of Lahijān, for ages a bone of contention between the Turks and their unruly Kurd subjects on one side of the mountains and the

Persians with theirs on the other. It is probably a result of these age-long vicissitudes that Lahijān, in spite of its fertile soil, abundant supply of water and suitable climate, can show no orchards or groves.

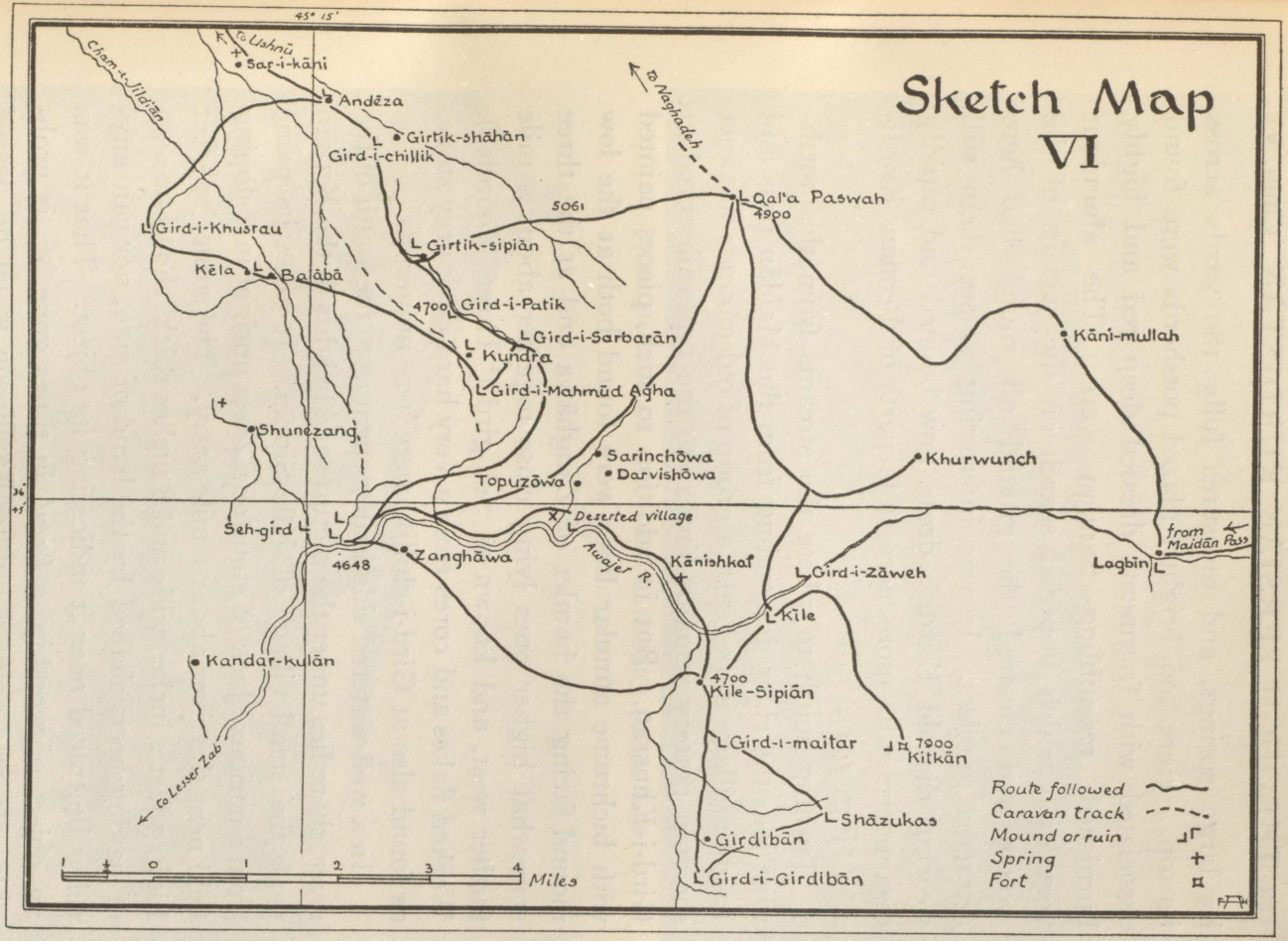
The size of the mound of Qal'a-Paswah (Plan 21, p. 305), rising to more than 70 feet, and the number of mounds to be sighted from it above the well-watered plain, showed sufficiently how densely the Lahijān tract had once been populated. All the more striking were the signs of the ruin and depopulation which the struggle proceeding here between Turks and Russians during the late war had left behind on this ground. In consequence of the famine conditions produced by the exactions of alternating invaders most of the cultivators had scattered far and wide, or perished, the land-owning families, all of them relatives of Karan Aghā, seeking refuge in places so far apart as Hamadān and Mosul. The large fort on the Paswah mound had repeatedly changed hands and had been completely destroyed in the course of fighting, while many of the houses at its foot were still uninhabited. Owing to want of labour much of the fertile land owned by the old chief and his numerous relatives had still to be left untilled.

In the course of the week during which my camp stood on a terrace near two springs above Qal'a-Paswah I was able, by long reconnaissance rides extending over more than 80 miles altogether, to visit the considerable number of old mounds which the information willingly supplied by the intelligent old Māmish chief had indicated. They were traced right down to where the valley narrows before passing into the tract of Khāneh at the foot of the main

range. The Sketch Map VI, enlarged from the quarter-inch sheet No. I.H, published originally by the Survey of India and based on a careful Russian survey, will help to show the exact position of these mounds. Owing to the extreme scantiness of the population it proved impossible, while harvesting operations were in progress, to secure adequate labour for trial excavation on a useful scale at any of the two dozen mounds visited. This will explain why my account of them will be brief and restricted in the main to a mention of the indications which surface finds, mainly ceramic, furnished as to the probable length of occupation.

Apart from Qal'a-Paswah the mounds of Girtik-sipiān and Kundra, rising to 40-45 feet above winding branches of the stream which is fed by large springs near the north-east end of the valley, are the highest. Owing to the thickness of refuse and debris from recent occupation covering the slopes only plain potsherds could be picked up at these two sites. At the low mounds of Gird-i-Patik, Gird-i-Sarbarān and Gird-i-Mahmūd Aghā, all three close to the Kundra mound and without any trace of modern habitations, there were found, apart from fragments of worked stones, including obsidian, also sherds dressed rich red and burnished; others with boldly moulded decoration, and a few glazed fragments, pointed to occupation continuing down to historical times. The same observation applies also to the more extensive mound of Gird-i-chillik about $1\frac{1}{2}$ miles north-west of Girtik-sipiān.

Larger than the last-mentioned is the mound of Gird-i-Khusrau, in a bay of the hillside about 3 miles to the west of Girtik-sipiān. It rises to 33 feet above ground watered



VI. SKETCH MAP OF PORTIONS OF LAHIJĀN, ENLARGED FROM SURVEY OF INDIA MAP No. I.H, WITH ADDITIONS FROM LOCAL OBSERVATION

by large springs, and measures fully 180 yards across its top. Here, too, brightly glazed potsherds were found associated with fragments dressed deep red and highly burnished, resembling Samian ware. The abundant vegetation which impeded search on the surface of the mound and covered the ground all round had here attracted graziers. It was interesting to see them still wearing the old Kurdish dress, now banned and rapidly disappearing in more accessible parts of Persian Kurdistān (Fig. 101).

Turning south to where the streams from the north-west join the river descending from the Maidān pass and Lagbīn village in the east, a group of old mounds was met showing pottery remains similar to the types observed at Gird-i-Khusrau. But in addition to such, pieces painted with bichrome annular lines were found both at the low mound facing the hamlet of Zanghāwa and at the three somewhat higher ones lying close together about a mile farther west, and known as Seh-gird ('Three Mounds'). Worked flakes and cores from a very hard dark-grey stone, as found also at Gird-i-chillik, were here numerous.

In a well-watered side valley opening to the south of the river, there lies under the picturesque heights of the Kitkān peak the small village of Kīle-Sipiān. It takes its name from a curious block of stone or *kīle* set upright in a sloping field near the river about 1 mile away. The stone, 12½ feet high, 3 feet 2 inches wide and 8 inches thick, shows no sign of having been shaped by the hand of man, nor can anything be traced near it indicating its object. That it was an object of worship, a *bætyl*, in times gone by, is probable. It was pointed out to Rawlinson when he passed



100. MOUND OF QAL'A-PASWAH SEEN FROM EAST



101. KURDS IN CAMP NEAR KĒLA, LAHIJĀN



102. VIEW OVER KITKĀN MOUNTAIN STRONGHOLD, LOOKING SOUTH

through Lahijān in 1838, as an object of special interest,[1] just like the great mass of eroded rocks above the hamlet of Khurwunch on the opposite side of the main valley. Local belief takes the latter for the site of a town the people of which were turned into stone for their wickedness.

At a mound or *gird* near the hamlet of Girdibān, about 2 miles above Kīle-sipiān, we picked up an obsidian blade by the side of a quantity of ribbed and glazed pottery, pointing to occupation down to early medieval times. It was the same also at the small mound of Zāweh, not far from the Kīle stone but on the opposite side of the river-bed. There many potsherds with coarsely painted polychrome bands, fragments of burnished, incised and ribbed, as well as glazed ware, lay in abundance on the surface.

Of more interest than the inspection of these mounds, where the ceramic remains uniformly seemed to point to prolonged occupation from an early historical period down to medieval times, was the visit I paid after my camp had been moved to Kīle-Sipiān, to the mountain fastness on the rugged Kitkān peak. An ascent of close on 3000 feet up the very steep northern side of the peak under the guidance of the owner of the hamlet, a nephew of Karan Aghā, brought us to a triangular trough on the top of the mountain. This is surrounded by precipitous wall-like cliffs (see Fig. 102), except on the east where the approach from a narrow saddle is defended by a wall of rough stones now badly decayed. The position of a gate in this wall was recognisable. Within this wall for a distance of about

[1] See Rawlinson, *J.R.G.S.*, x. (1840) p. 30 sq. For old worship of stones among Kurds farther west, see Hogarth, *The Wandering Scholar*, pp. 70, 77.

a quarter of a mile there extend remains of completely ruined small dwellings, built with undressed stones, down to a rocky knoll forming the apex of the triangular basin in the south. These remains extend also to the north-eastern corner, where quantities of hard well-burnt bricks, measuring 6 inches square and 1½ inches thick, indicate the position of a completely collapsed tower-like structure.

From the rock pinnacle forming the north-west corner of the natural fastness at a height of 7966 feet, as marked on the map, a magnificent view opened across the broad valleys around and towards the great range in the south which forms the Perso-Irāq boundary. Northward the view extended over the wide tracts of Ushnū and Solduz as far as the great expanse of the Urūmīyeh lake, sighted under a light haze.

Prolonged occupation and defence of the mountain-top was made possible by the rocky slopes within the trough sloping down towards the centre and thus making it easy to store an adequate supply of water. Two large and well-marked pits lying in a line indicate the position of cisterns, now for the most part filled with alluvium. There was evidence of the sides having been coated with hard plaster. Broken pottery found in plenty over most of the basin proved permanent occupation. Glazed pieces in different colours or else mottled, with incised design, recalling 9th-10th-century Islamic ware, were frequent; also sherds with incised combing. Among other remains may be mentioned a small metal bell, a cubical stone bead, and fragments of translucent greenish glass and of iron, including the tang of a small knife. As neither painted nor ribbed ware was represented among the sherds, occupation

of the fastness could scarcely date back far before the Muhammadan period.

Section iv—At Ancient Sites of Ushnū

An accumulation of much delayed correspondence had helped to keep me busy during my stay in Lahijān. But when in spite of patient waiting the difficulty about labour for excavation proved unsurmountable for the time being, I decided to move on north-westwards to the neighbouring tract of Ushnū. Karan Aghā's information about complete pots having been found there near the hamlet of Dinkhā pointed to a site of interest awaiting examination.

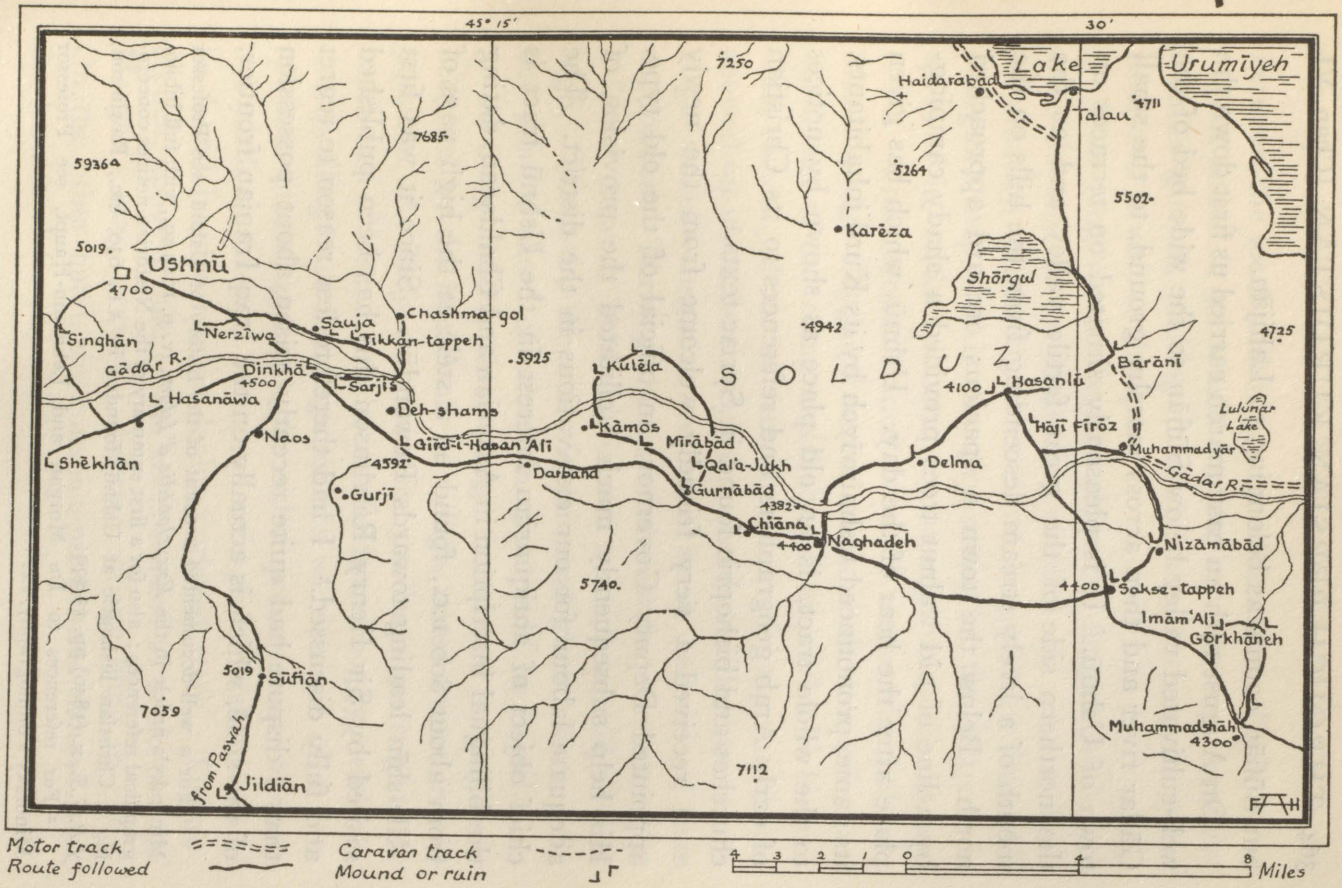
Starting from our camp near the mound of Gird-i Patik on August 13th, our way lay up the north-western portion of the Paswah valley. A large mound rising behind Andēza village is certainly of artificial origin, but no remains of early pottery could be found on it. Following a road commenced during the Russian occupation but never finished, which evidently was meant to provide a lateral route from Ushnū and Solduz to Sauj-bulagh, after 5 miles we reached the mound of Gird-i-kul at the mouth of a small side valley. It measures about 260 yards in length and rises to 15-20 feet. Of decorated pottery only glazed and comb-incised sherds could be found, indicative of comparatively late occupation. The Gird-i-khazīneh, also known as Gird-i-Bāba Gurgur, not far off, proved to be the end of a low natural ridge occupied by old Muhammadan graves, one of them surmounted by a well-carved tombstone with geometrical designs.

Farther on our route led across open ground and crossed

what had been the carefully aligned permanent way for a narrow-gauge Russian railway. This was meant to lead from the southern shore of Urūmīyeh lake through Solduz towards Khāneh and across the watershed range to Rowandūz in Irāqī (then Turkish) Kurdistān. Well conceived but never completed, such a railway would have meant a serious threat to Mosul. A move along it, before the retreat of the Russian forces from these parts took place in 1917, might well have considerably shortened the Mesopotamian campaign. As it was, the Russian effort on this ground remained a little known and perhaps unrecorded episode of the Great War.

At the largish village of Jildiān (see Sketch Map VII), reached after a 10-mile march, I found the face of a mound rising steeply to a height of about 40 feet above the dwellings close at its foot. The mound had been dug into for building materials ; towards its higher south-east end, the debris deposits seemed to overlie a natural ridge. Where the face of the mound lay exposed it showed throughout layers of stones from roughly built walls and of charred remains mixed with broken pottery. Among the sherds collected at the foot there was plenty of good burnished ware both red and dark-grey ; also pieces of buff or terracotta body painted with bands of rich red, as frequent also at other mounds in Lahijān. A number of glazed sherds, green or bright turquoise, pointed to occupation in later historical times. After crossing the watershed towards Ushnū by a broad saddle, we halted at the village of Sūfiān, close on 5000 feet above sea-level. It is built over an old mound at the northern end of a wide cultivated trough. Its stream drains into the Gādar river traversing the whole length of Ushnū ;

Sketch Map VII



VII. SKETCH MAP OF PORTIONS OF USHNŪ AND SOLDUZ TRACTS, FROM SURVEY OF INDIA MAPS I.G, H, WITH ADDITIONS FROM LOCAL OBSERVATION

but Sūfiān counts as belonging to Lahijān.

On August 14th an easy march carried us first down the well-cultivated valley below Sūfiān to the wide bed of the Gādar river and then across marshy ground, to the small town of Ushnū. It is pleasantly situated on terraces on the northern side of the great fertile valley and at the mouth of a lively stream descending from the hills on the north. Below the town a spacious orchard approached by a line of old walnut trees provided a shady camping-place after the heat of the day. Ushnū, which has given its name, pronounced Ushnuwīyeh by its Kurd inhabitants, to the whole tract, is an old place as shown by notices of early Arab geographers and references to its Christian churches and bishopric found in Syriac texts.[1]

I received a very friendly welcome from the newly appointed Deputy Governor, an official of the old type. His help subsequently much facilitated the provision of adequate labour for our excavations in the district. The chief object of antiquarian interest in the Ushnū tract is the bilingual inscription in Assyrian and Chaldaean, dating from about 800 B.C., found on a stêlê at the high pass of Kīle-shīn leading towards Rowandūz. Since it was first visited by Sir Henry Rawlinson this has been published and fully discussed.[2] I had therefore less reason to regret that a dispute had quite recently arisen about possession of the stêlê, which is actually on the Iraq-Iranian frontier,

[1] For a well-documented account of the history of Ushnū, see Professor Minorsky's article in the *Encyclopédie d'Islam*, iv. p. 1049 sq., with full bibliographical references ; also for a first summary of the Nestorian notices concerning a Christian bishopric at Ushnū, founded in A.D. 630, etc., Rawlinson, *J.R.G.S.*, x. (1840) pp. 15 sqq.

[2] For references to De Morgan and Lehmann-Haupt, see Professor Minorsky's bibliography, *l.c.*

between the local authorities on either side. The quarrel almost ended in an armed conflict between the respective frontier guards, making it inadvisable for me to spend time over a visit to the spot.

Two long reconnaissance rides on August 16th-17th were devoted to an inspection of such old sites as local information indicated, or as could be gathered from De Morgan's map, which was very useful for this purpose in spite of its curious inaccuracy as regards positions and scale. The reconnaissance directed eastwards took me first to a high elongated mound situated about a mile east-north-east of our camp and believed to mark old Ushnū. This mound, about 45 feet high and of irregular shape, showed on its surface only plain sherds besides numerous large stones — negative evidence as it seemed of late occupation. Turning thence south-east for about 2 miles I found close to ʿAlīābād hamlet a small mound 12 feet high. There, by the side of plain and glazed ware, only one painted sherd of uncertain type could be found.

At Gurghurāwa, where a large flat mound is completely occupied by the houses of the village, no examination was possible. At Sauja situated some 5 miles in a straight line south-east of Ushnū, amidst rice-fields and boggy meadows, the dwellings are built against the south slope of a conspicuous mound 45 feet high, with a circumference of some 230 yards on the top. Here, too, only plain potsherds could be found besides modern-looking glazed ware. Tikkan-tappeh, about a mile to the east, marked as a site on De Morgan's map, proved a deserted village lying in ruins. On the other hand, the conspicuous conical mound near the hamlet of Sarjis, which we reached after crossing the

wide bed of the Gādar river, here flowing in several channels, appeared to be of early origin, although on the scrub-covered slopes only plain and comb-incised potsherds could be found.

Within less than 1 mile to the west, on the right bank of the river, is an extensive mound below which on the west side nestles the small hamlet of Dinkhā. I had heard of the finds made there during my stay at Paswah. Erosion by the river washing the northern foot of the mound had done effective excavation, and a first rapid inspection of the debris strata thus exposed sufficed to prove occupation in chalcolithic times (Fig. 103). So the site at once recommended itself preferentially for trial excavation.

This choice was not affected by what I saw in the course of a second day's reconnaissance in the western portions of the wide valley. At Singhān, about 3 miles to the south-west of Ushnū town, there rises a conspicuous mound, some 40 feet in height. But the large fort of Mūsa Khān, chief of the Zarzā Kurd tribe, occupying its top, and the village clustering around its foot precluded closer search. Moving thence south for about 4 miles across broad spurs on either side of the Gādar river I visited a small mound above a side stream of the latter, close to the village of Shēkhān. There glazed potsherds and fragments of burnished ware indicated occupation down to a late period.

In an old Muhammadan cemetery near by I noted with interest a number of large flat stones resembling that of Kīle-Sipiān set upright over graves. Then following down that side stream near to where it joins the Gādar we came to a considerable mound by the village of Hasanāwa. Including a steep rock ledge which it overlies, it rises to



103. MOUND OF DINKHĀ, SEEN FROM GĀDAR RIVER BANK



104. REMAINS IN GRAVE VIII, DINKHĀ SITE



105. EXCAVATION ON DINKHĀ MOUND, SEEN FROM BANK OF GĀDAR RIVER

38 feet and measures about 140 yards along its foot from north-west to south-east. Here the indications derived from pottery debris were the same as at Shēkhān. Finally on our return to Ushnū town across the wide branching bed of the river, the mound known as Gird-i-Nerzīwa, rising to 33 feet above irrigated level ground, was visited. Here, as also on a smaller mound about 1 mile farther to the north-north-west, only sherds of plain red and of coarsely incised ware could be found on the surface.

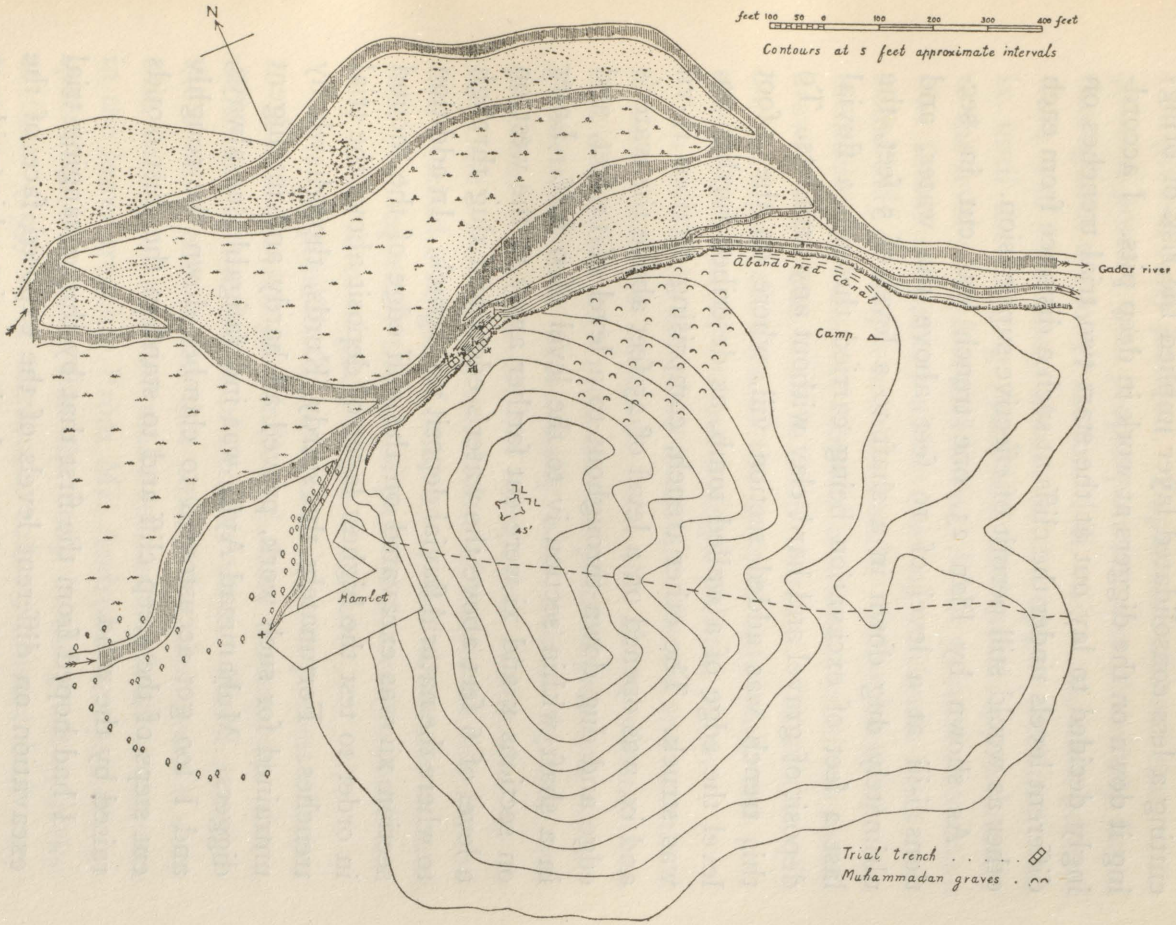
On August 18th our camp was moved to the mound of Dinkhā (Fig. 105), and our tents pitched near the eastern end of its top. There the bare ground afforded, indeed, no protection from the hot sun of the day but allowed me to enjoy the benefit of the strong winds which had by now begun to blow down regularly from the mountains from the forenoon till the evening. They were a sign of the increasing cold on the mountains causing the cool air to be drawn thence into the great basin of the Urūmīyeh lake by 'aspiration'. On the following morning the trial excavation was started, and with the help of adequate labour supplied, under the Hukūmat's orders, from the villages of Sarjis and Khaltābād was carried on for six days. A large Muhammadan cemetery near our camping-place on the mound suggested, like a small ruined fort on its very top, that Dinkhā may have been a village of some size in medieval or later times. But the present hamlet was found to consist of only ten dwellings, and these almost all stood empty.[3]

[3] The name *Dinkhā*, like that of Sarjis, apparently of Aramaic derivation, has suggested to Professor V. Minorsky the former presence of a Christian (Nestorian) element in the population of the Ushnū canton; see *Encyclopédie d'Islam*, *s.v.* Ushnū.

The mound, as seen in the sketch plan (Plan 23), stretches along the right bank of a main branch of the Gādar river for a distance of some 470 yards. Its greatest width from north to south is about 360 yards, and its circumference at its base not far short of 1 mile. The highest portion of the mound lies 45 feet above the river branch which, as seen in Fig. 105 and the sketch plan, washes the foot of the mound along most of its northern side.

The edge of the mound was found to lie here 32 feet above the level of the water at the time. Erosion due to the current in the river setting against the foot of the mound, helped by rain and on occasion by great floods, has cut the edge of the mound in places into precipitous cliffs. It is probable that a considerable portion of the debris accumulations from the mound on this side has been washed away in the course of time. Local information pointed to the mound having extended within living memory 40-50 yards farther to the north. Recent erosion was said to have laid bare a considerable number of complete vessels, probably from graves, some little distance to the west of the place where our trial excavation was made. From among those taken into use by people at Dinkhā I was able to recover by purchase three globular jars and a large pitcher with a strap handle (9, 12, 15, Pl. XXIX).

The steepness of the eroded face of the mound gave hope of reaching the culture strata composing it at deeper levels than might otherwise have been possible within a limited time. On the other hand it caused difficulties in a trial excavation intended to disclose deposits on different levels. Ledges had first to be cut into the steep walls of debris and subsequently enlarged. The chance of under-



23. SKETCH PLAN OF DINKHĀ SITE, USHNŪ

cutting a less consolidated layer implied the risk of bringing it down on the diggers at work in deep pits. I accordingly decided to lay out at the start two trial trenches on different levels under the cliffs at such a distance from each other as would still permit of effective supervision.

As shown by Plan 23, one trench was cut in sections i-iii at a level of 19 feet above the water, and ultimately dug down in a shaft to a level of 5 feet, the last 2 feet of excavation being carried through a fluvial deposit of gravel and hard clay without any artifacts. To this trench was added section viii, where on the 9-foot level the edge of a walled tomb, as described further on, was struck. The other trench, comprising sections iv-vii and ix, was opened on a level of 25 feet above the water's edge and dug down throughout to a level of 14 feet, and in a shaft within section iv to the level of 9 feet. Later on sections x and xi were cut farther away to the west on a level of 6 feet above the water's edge, and dug through to where the natural fluvial deposit was struck. In addition section xii was excavated on the cliff edge of the mound in order to test the highest layer of deposit above the trial trenches. Fortunately the sturdy Kurds, though wholly untrained for such work, proved all hardy and intelligent diggers. Muḥammad Ayūb was indefatigable, as always, and I too got accustomed to clamber down the roughly cut steps of the steep cliff and to stand in the dust clouds raised by the wind.

I had hoped from the first that by thus arranging trial excavation on different levels of the exposed face of the mound it would be easier to obtain stratigraphic evidence from the ceramic materials brought to light. This expecta-

tion proved fully justified. Experience showed that while painted pottery with proper patterns was plentifully found throughout the lower sections i-iii, viii, x, xi, such painted ware was completely absent in the upper sections iv-vii, ix, until the digging there had descended approximately to the level of 20 feet and lower. What painted decoration was found on pottery above that approximate level consisted only of simple annular bands. Other forms of ornamentation by means of ribs and incisions, sometimes comb-drawn, were met with in both trenches. In section xii, on the top of the face of the mound, only plain red potsherds were found, without a single painted piece.

In view of the abundant materials collected and examined it seems safe to conclude from the above observations that decoration with monochrome painted patterns, mainly geometrical, but occasionally also animal figures, was practised from the earliest occupation of the site, up to the time when the accumulation of debris on the mound had reached a height of some 16-17 feet above the natural soil. Subsequently the use of painted decoration continued only in the form of plain bands of colour.

It is not possible for me to determine at present whether to the distinction just indicated there corresponds also a difference in the fabric of ceramic ware. But I noted at the time of excavation that among the plain ware a very thin variety of superior make seemed confined to sections in the lower trench. From Mr. Andrews' analysis of 250 specimens it appears that the body in the great majority of them (199) is of terracotta colour, dressed buff very frequently, and, in a few cases, white. A buff body of various tones is found in 55 specimens and a grey or grey-

black body in 43. Burnishing seems to be applied more frequently in pottery from the lower sections. The paint used for decoration is usually black or brown-black (46) and brown (23). But red is also frequent (35), while bichrome decoration is found in 2 pieces.

Painted decoration, apart from annular bands already referred to, is mainly geometrical, consisting of such simple motifs as zigzags, chequers, circlets, crosses, triangles, hatching and cross-hatching, etc., used single or combined (see Pl. XXII). Figures of highly stylized birds are found in 1, 4, 7, 11, 12. As regards shapes, as seen in complete vessels (1-3, 20, Pl. XXI), and in drawings from restored pieces (7, 9, 12-14, 16-18, Pl. XXIX; 1, 3-5, XXX), there may be noted bulbous, pear-shape and echinus-shape jars, as well as shallow dishes with out-turned rims. The 'Nihāwand' shape common at sites in the north of the Pīsh-i-kōh is not represented. On large vessels there occurs often a channelled rib of a definite type (5, 15, 16, Pl. XXI). 'Ring bases' are frequent. The use of perforated vessels as braziers is attested by two fragments (19, Pl. XXI). A tripod jar (2, Pl. XXI) was found in a grave. The fragment of a bowl with loop handles (8, Pl. XXI), from section vii, is of interest as showing distinct imitation of metal work. The fragment of a high stand (11, Pl. XXIX) recalls forms found at Balūchistān sites (*e.g.* Mehī).

Before turning to an account of individual observations and finds in the several sections, I must call attention to two negative facts of some interest. One is that throughout the excavation not a single worked stone implement was found, while the use of bronze is fully attested by objects found both in the lower and upper trenches. The other is

the absence, apart from a single fragment, of any of that dark-grey or black gadrooned and burnished ware which is so common at the mounds of Solduz. There seems good reason to assume that the period of chalcolithic occupation at Dinkhā is older than that of Hasanlū among the Solduz mounds and of Lūristān sites like Kazābād and Girairān, at all of which the knowledge of iron is proved by grave finds.

The first discovery of a burial was made in section iv at a level of about 19 feet. A grave cavity about $2\frac{1}{2}$ feet long from north to south was found covered by three sun-dried bricks, 12 inches square and 4 inches thick. The northern end was closed by a large broken pot with the mouth facing outwards. The body seemed to have been that of a child, only fragments of a skull and thigh bones being clearly recognizable. Within the grave were found two small jars, one of them a tripod (2, Pl. XXI ; 4, XXX), and a coarsely made small bowl (3, Pl. XXI).

Mixed with ashes lay two bronze pins with pear-shaped knobs, four small bronze rings and seven small beads of frit or glass. In section vi, on a level of 17 feet, there was unearthed a complete skeleton, apparently of a boy, laid north to south. By its side lay the small jar painted with red annular bands, and another plain jar, broken in clearing. In section v there were noted at an approximately similar depth two flat roughly circular stones hollowed in the centre, probably serving as sockets for door pivots. A large quadrangular burnt brick, 9 inches high, showed on one side a raised scroll, and on the adjoining side a deep fluting which may have been a structural element.

In section ii of the lower trench there was found on a

level of 14 feet a large pot, 25 inches deep and 13 inches wide at the mouth, lying on one side. Within, there lay the skull and some bones of an adult. Above the vessel there lay some sun-dried bricks, incomplete but probably measuring 13 inches square and 4 inches thick, and a layer of burnt earth of uncertain origin. Very curious objects are the terracotta pegs, 9½ inches long (13, Pl. XXI), with smooth moulded heads presenting a flat circular face, and with square shafts tapering at the end. One of them was found within a yard of the mouth of the burial pot and the other a little farther off. Magical use suggests itself for these pegs, perhaps meant to keep the dead from haunting his former abode.[1] The head of a similar pottery peg, broken off, was unearthed on a slightly lower level in section iii.

Another and more striking discovery of a burial was made when digging in section viii at a level of 10 feet disclosed, on the western side of the trench, two large slabs of stone covering a walled-in grave. As these slabs were overlain by stones and heavy debris rising almost vertically to a height of some 16 feet, nearly half a day was spent in cutting down before they could be lifted and removed. One of them measured 5 feet 3 inches by 2 feet 2 inches.

Overlying stones and sherds embedded between them showed that the grave had been dug into a debris-covered slope. The grave, marked as section viii, was of oblong shape, lined on all four sides with walls of rough stones irregularly set in mud (Fig. 104). It was approximately

[1] Regarding the use of wooden pegs for magical purposes at Turfān sites, see *Innermost Asia*, ii. pp. 591, 650, 687; for other references, *ibid.*, Index, *s.v.* wooden pegs.

orientated, measuring 4 feet 6 inches from east to west, and 2 feet 8 inches across; its depth was approximately 3 feet. Little earth had accumulated within, and the burial furniture was all intact. The body had been placed in a crouching posture against the south-east corner. The remains had much decayed, except the skull, which I was able to remove for examination in London. The bronze dagger found by its side and the teeth showing little wear indicated that it was the skeleton of a male youth.

The burial furniture (Pl. XXI) was ample. On the right of the head and breast lay two small jars with small ring bases; beyond them lay the bronze dagger, $7\frac{1}{4}$ inches long (4, Pl. XXI), the tang showing impressions from a wooden handle; farther down were two heavy bronze pins, $6\frac{1}{2}$ inches long (6). To the left of the head lay a heavy bronze ring (7) $\frac{1}{2}$ inch thick and $3\frac{1}{2}$ inches in diameter, too heavy it seems for wear as a bracelet. One small jar painted with annular bands (1) was found near the breast with its mouth broken. Farther down towards the left thigh bone lay five small jars, generally ovoid (7, 16, Pl. XXIX), slightly differing in size. One of them (18, Pl. XXIX) is decorated with incised annular lines and raised by a slender stem over a small, flat ring-base. Below the north wall, and close to the right thigh, was a row of four small jars, one of them having a slightly convex bottom (1, Pl. XXX). One of them contained a flake of glass and a fragment of wood. From the grave there came also a stone rubber (12, Pl. XXI) which may have been used for massaging the body.

Apart from its abundant furniture, the grave in viii presents a special interest inasmuch as being found in close

vicinity to the pot burial in ii and on the same level, it proves that local custom on this ground practised two different methods of burial in the same chalcolithic period. As an observation of a more general interest, may be noted the great height of the debris layers, close on 20 feet above the natural soil, in which the abundant painted pottery shows an identical type of decoration, with patterns mainly geometrical. This affords definite proof of the length of this period, which may roughly correspond to that described as Susa II in Khūzistān. The period of occupation which followed, and which is characterized by the use of painted decoration only in the shape of annular bands, appears to have been much shorter, since the layer of deposit representing it does not much exceed 5 or 6 feet in height. It probably merged into historical times, when the use of colour for the decoration of ceramic ware, apart from a uniform dressing, seems locally to have ceased altogether.

On August 25th our camp was moved some 3 miles in a straight line across the valley to the north-east. There a previous reconnaissance had shown, at the foot-hills near the village and large spring of Chashma-gul, a curious succession of five conical mounds stretching in a straight line at short intervals, known as *Seh-gird*. Measuring each only 50 yards or less in diameter and gradually diminishing in height from 18 feet to 10 feet, they at first suggested a series of burial tumuli. The fact of our having now moved so far north helped to make me think of the mounds raised over tombs such as are to be found by the shores of the Caspian and in the steppes of Russian Turkistān. This thought proved in due course wholly deceptive,

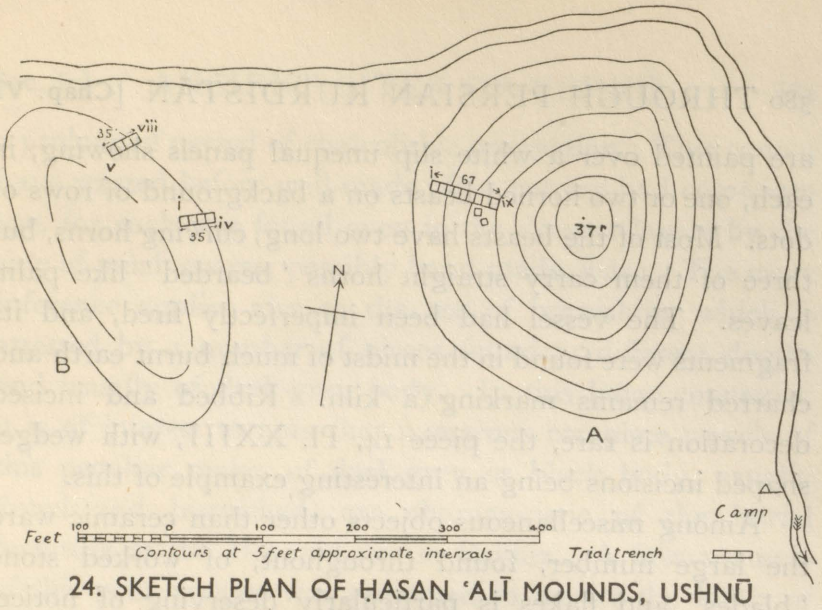
when shafts sunk on the top of a couple of these small mounds disclosed only hard gravel soil. Closer examination showed all of them to be merely natural 'witnesses' of a Piedmont gravel ridge originally descending from the foot of the hill range on the east. They had become eroded into conical 'mesas' diminishing in size and height towards what had been the end of the ridge.

While we were encamped near Chashma-gul it had been possible also to visit the low mound of Wardāwī, on a small branch of the river half a mile to the south, from which a villager had brought a large spouted vessel of coarse ware. A short trial excavation carried out under the Surveyor's supervision at the foot of the mound, brought to light only two small jars of coarse ware, besides fragments of red burnished ware and sherds of glazed Muhammadan pottery.

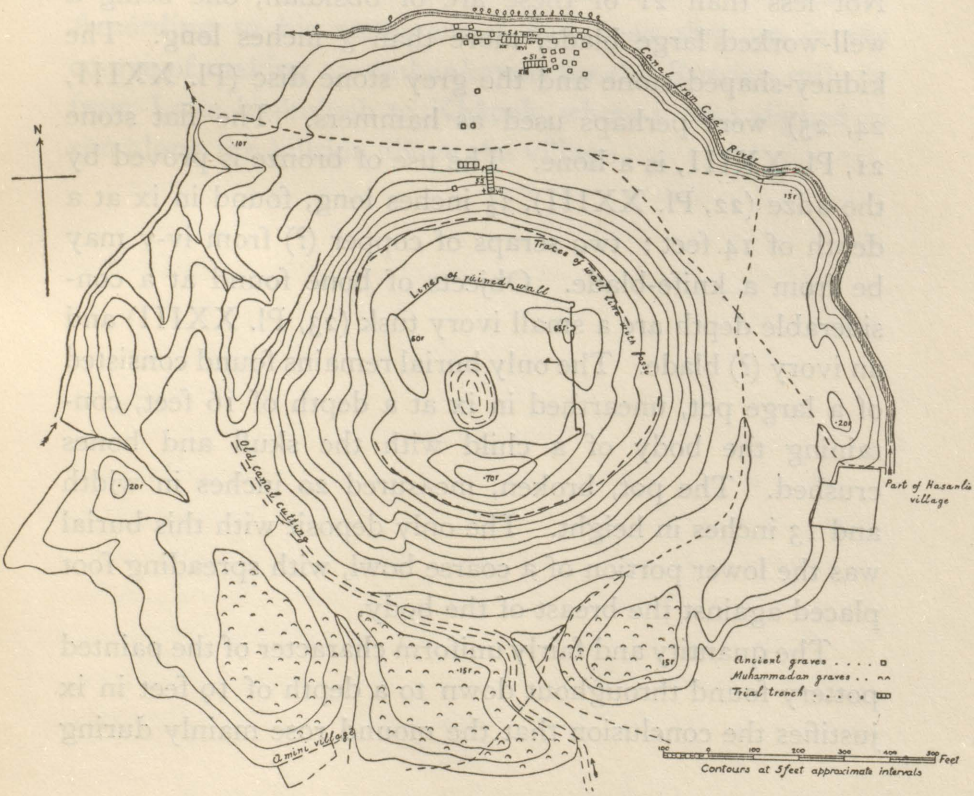
Before leaving the tract of Ushnū on September 4th for Solduz, five days were devoted to an excavation at a small but conspicuous mound rising above a canal near the hamlet of Deh-shams, about 4 miles to the south-east of Dinkhā. The mound is known as Gird-i-Ḥasan ʿAlī, from a former owner of the adjacent fields. It rises to 37 feet on low terrace-like ground, and measures, as the sketch-plan (Plan 24) shows, at its foot about 130 yards from north to south and less than that across. On low, swelling ground, *B*, stretching west of the mound where two trial trenches were first cut, only fragments of plain coarse pottery showing a white slip were found, besides some red and black burnished ware. A single painted sherd showing an annular brown band, pointed like the rest to late occupation.

The result was different at the trial trench opened in nine sections on the western slope of the mound *A* from a level of 20 feet down to a level of 5 feet. The soil in the mound proved rather soft, and no structural remains were struck. Almost from the start there were cleared in sections iii-ix, painted sherds with carefully executed geometrical patterns distinctly differing in types from those represented at Dinkhā and at the Lūristān sites I had tested. The character of this painted ware did not change as the digging reached lower levels, but besides it there was noticed an increasing quantity of coarse plain ware, which appeared to be made without the use of the wheel. Mr. Andrews' examination of some 160 specimens of selected painted sherds shows in the great majority a dark terracotta body, while in the remainder it is either buff or grey, in the latter case often dressed terracotta, buff or red. Black or grey-black pieces are scarce. The paint used for decoration is ordinarily black, but rarely brown, and applied in monochrome, with the exception of two pieces where a red band is added.

The painted decoration consists mostly of geometrical patterns, carried out with much care, and composed of a great variety of motifs such as triangles, lozenges, cross-hatchings, counterchange, fringing, dots, tree shapes, etc., as seen in the specimens shown in Pl. XXIII. A few animal figures, all of horned goats (?), are also found (6, 7, Pl. XXIII). A very interesting example is furnished by the fragments of a large vessel (27, Pl. XXIII) found broken into many pieces at a depth of 14 feet in iv. They belong to a wide-mouthed, deep bowl which had its upper part divided into two broad zones. On the top zone there



24. SKETCH PLAN OF ḤASAN 'ALĪ MOUNDS, USHNŪ



25. SKETCH PLAN OF HASANLŪ SITE, SOLDUZ

are painted over a white slip unequal panels showing, in each, one or two horned beasts on a background of rows of dots. Most of the beasts have two long, curving horns, but three of them carry straight horns 'bearded' like palm leaves. The vessel had been imperfectly fired, and its fragments were found in the midst of much burnt earth and charred remains marking a kiln. Ribbed and incised decoration is rare, the piece 14, Pl. XXIII, with wedge-shaped incisions being an interesting example of this.

Among miscellaneous objects other than ceramic ware the large number, found throughout, of worked stone 'blades' and flakes is particularly deserving of notice. Not less than 21 of these are of obsidian, one being a well-worked large blade, more than 3 inches long. The kidney-shaped stone and the grey stone disc (Pl. XXIII, 24, 25) were perhaps used as hammers. The flat stone 21, Pl. XXIII, is a hone. The use of bronze is proved by the adze (22, Pl. XXIII), $3\frac{1}{2}$ inches long, found in ix at a depth of 14 feet; two scraps of copper (?) from iv-v may be from a knife-blade. Objects of bone found at a considerable depth are a small ivory tusk (23, Pl. XXIII) and an ivory (?) blade. The only burial remains found consisted of a large pot, unearthed in ix at a depth of 16 feet, containing the body of a child with the skull and bones crushed. The pot, broken, measured 20 inches in width and 13 inches in height. The only deposit with this burial was the lower portion of a coarse bowl, with spreading foot placed against the breast of the body.

The quantity and fairly uniform character of the painted pottery found throughout down to a depth of 19 feet in ix justifies the conclusion that the mound rose mainly during

a prolonged period of chalcolithic occupation. This cannot have started before well-made plain pottery had come into use, for such was found even in the deepest layers by the side of much coarse, possibly hand-made, ware. The same inference applies also to the use of burnishing which is attested by a number of pieces found at different depths and usually of dark-grey body. In this latter connexion it is of interest to note that numerous complete vessels of this peculiar make, of dark-grey or black body, usually fluted and burnished, are characteristic of the burial furniture at the Hasanlū site in Solduz. A first example of this pottery type was presented to me by the Khān of Gurjī village, about 2 miles to the south-west of Deh-shams. According to his statement it had been dug up in the course of making an embankment for the Russian railway from Lake Urūmīyeh to Khāneh, where it was aligned to run along the hillside above the village.

CHAPTER VII

FROM LAKE URŪMĪYEH TO THE TIGRIS

SECTION I—IN THE TRACT OF SOLDUZ

ON September 4th I left Deh-shams and proceeded down to that lower and larger portion of the valley of the Gādar which forms the tract of Solduz. The boundary between it and the canton of Ushnū was reached after 3 miles at the hamlet appropriately known as Darband (*chiusa*). There the river passes through a defile formed by spurs descending from the north and south. Solduz is an abundantly watered and fertile district stretching down by the river to its marshy delta at the southern shore of Lake Urūmīyeh. It has been occupied since the early decades of the 19th century mainly by the Turkī-speaking tribe of the Kara-papak transferred here from Georgia after the Perso-Russian War of 1828. On moving along the foot of the hills to Naghadeh, the administrative centre of Solduz, it was pleasant for me to be able to hear and talk again homely Eastern Turkī. Of course, it differs in its phonetics and vocabulary from the Turkī familiar to me from happy years in Chinese Turkistān. But as before in Trans-Caspia conversation on simple topics was not difficult. From Chiāna, the first village of any size through which our march of 12 miles took us, we followed to

Naghadeh the well-made Russian road dating from the Great War.

But apart from this road, which we struck again at other points, there was only too much evidence to be seen on all sides of the ruin resulting in famine and depopulation which at first the Turkish invasion and then the much longer and equally destructive Russian occupation had wrought in Solduz. At Naghadeh, where our camp stood for three days on a plot of bare ground which once had been a vineyard, we found the majority of the dwellings clustering round a great mound, prehistoric in origin, abandoned and falling into ruin. Of the extensive orchards once surrounding the small town nothing was left, their trees having all been cut down for firewood. Khān Rashīd-as-Sulṭanat, a principal landowner of Solduz, who in spite of great age and failing health came to bid us a friendly welcome, had much to tell of all the losses and afflictions his people and the rest of the inhabitants had gone through during those difficult years. Counting 1200 households before the War, Naghadeh had become almost deserted in the course of it, and even gradual recovery since had failed to raise their number to more than about 300.

The dwellings of Naghadeh, whether occupied or mere crumbling ruins, are found mainly at the southern and eastern foot of a great debris mound rising at its highest point to about 47 feet above the level of the fields to the south-west. Its top measures fully 700 yards in circumference. No painted sherds of chalcolithic type were found on the surface. But fragments of superior burnished ware, both red and dark grey, were noticed, also some green-glazed sherds, probably of Muhammadan times. At the

house of Khān Rashīd-as-Sulṭanat I was shown three vessels said to have been found on the mound when digging for the foundations of a house. One was a small burnished black vase of echinus shape, another a large jar, dressed red and burnished, with a narrow mouth and a lug. Of greater interest is a tall barrel-shaped jar of grey-black burnished ware which was presented to me by the Khān. It has two well-shaped handles in the form of ibex heads facing outwards with the horns resting on the rim. It resembles in all respects the jar subsequently excavated at the Hasanlū burial-ground and shown in 7, Pl. XXIV.

Khān Rashīd-as-Sulṭanat proved well acquainted with the old sites of Solduz, and the information readily supplied by him enabled me to visit them in succession on two long reconnaissance rides. The first of these, on September 5th, took me north-westwards past the villages of Chiāna and Gūrnābād to a very large mound, reached after 6 miles, near the hamlet of Mīrābād. It presented a striking novel feature in the shape of an approximately round rampart crowning the mound at a height of about 35 feet.

This circumvallation, which probably represents an ancient wall of sun-dried bricks decayed into mere earth, measures some 950 yards in circumference. The position of two gates on the north-north-east and south-south-west respectively was just recognizable. On the slope below to the north traces of two more circumvallations, less thick and even more decayed, could just be made out. Within the upper rampart a small mound rises to a height of another 20 feet, suggesting the position of a citadel. The whole aspect recalled to me views of great prehistoric mounds on the Khābur river used as fortified positions in Mitanni (?)

times, as shown by aerial photographs in Père Poidebard's great work *La Trace de Rome dans le désert de Syrie*.[1]

But in order to get a clear view of the whole site and verify this impression it would have been necessary for me to ascend into the air or spend a couple of days over a careful plane-table survey of these defences. Here, as elsewhere in Solduz, abundant vegetation on the mound impeded the search for surface remains; but many burnished red and dark-grey potsherds, also fragments of ribbed ware, were found on the slopes, whereas glazed sherds could be seen only near Muhammadan graves on the top.

The hamlet of Kāmōs situated 2 miles farther to the west, and not far from the right bank of the Gādar river, is built on a low mound of undoubtedly early date. While obliged to stop for a brief time by the local Khān's hospitable invitation I was shown a large black burnished pot of the Hasanlū type which had been dug up when cutting into the slope for a dwelling. Large bricks, 4 inches thick, were exposed in a layer below a newly built mosque.

Then moving across several branches of the river to the village of Kulēla I found a mound to the south of it measuring about 700 yards in circumference at its oval base and 35 feet high. Here ancient occupation was attested by a few painted fragments of pottery of late chalcolithic type (see 26, Pl. XXIII), besides sherds of burnished black ware as above mentioned and a worked stone 'blade'. After continuing for about a mile to the north-east over gently rising ground I was shown a small mound known as Dilanchi-tappeh from an abandoned hamlet near by. The fragments of burnished red pottery picked up on its surface looked old.

[1] See *e.g. l.c.*, Pls. CXXXIII-CXXXV.

Finally, on making our way back towards Naghadeh past more deserted hamlets and recrossing the river, we came near the largish village of Qal'a-jukh upon a little mound only 12 feet high and 60 yards in diameter. Some painted sherds found here pointed to chalcolithic occupation.

On September 7th I was able, under the guidance of the intelligent ' Kat-khudā ' of Naghadeh, on a ride of some 25 miles to the east and north-east, to visit a number of considerable old mounds. They afforded striking proof how closely all this fertile ground on the lower course of the Gādar river must have been settled in early periods. Now a great portion of it is left untilled owing to want of population. After passing eastwards for about 8 miles over ground which, though amply watered, is mainly abandoned to grazing, we reached the mound of Saksetappeh. At its foot we found a dozen semi-nomadic Turkī families of the Shāh-sawand tribe who had returned from their summer grazing-grounds in the hills east of the lake and were still living in their wretched felt tents.

The mound rises to 32 feet and at its almost circular base measures about 750 yards round. At its foot it is surrounded by an unmistakable fosse some 50 yards wide and now about 6 feet deep. There was some indication that this fosse could be filled with water brought from the river by a canal which had long ago silted up. This fosse and some green glazed potsherds found on the top of the mound might have suggested that the site was of late date; but a number of sherds painted with simple patterns of unmistakably chalcolithic type left no doubt about the mound being formed by debris accumulated from prehistoric times.

This was confirmed by finds of some flints and obsidian 'blades'. Pieces of burnished dark-grey ware were also found on the slopes. These indicated that occupation had continued into a period which the subsequent excavations at Hasanlū allowed me to assign to the second millennium B.C.

Turning off thence to the north-east we next came, after 2 miles across watery meadows, to a large mound of circular shape near the village of Niẓāmābād. It rises about 25 feet above two river-beds, now dry, which surround it and seem to form a fosse. The flat top of the mound has a diameter of some 120 yards. A number of sherds of burnished ware painted with annular bands of red or brown found on the top proved early occupation here also. Proceeding thence to the north and fording the Gādar we reached the largish village of Muḥammadyār on the motorable road leading from the eastern shores of the lake to Sauj-bulagh. It seems to have formed a regular stage during the Russian occupation, which has left its traces in a camp site and much destruction of dwellings. Muḥammadyār has a regular weekly market on Fridays, and the row of booths outside the walled village, built for this purpose but standing empty at the time, curiously recalled to me many a similar sight at rural market-places of Chinese Turkistān. I had not come across the like on my journeys in southern Īrān.

One mile beyond the village to the north I found an extensive mound close to the road. A terrace-like piece of ground beyond its eastern foot had been cut through when the Russian road was engineered. Perhaps some finds made in the course of this work may account for a broad

trench cut into the northern slope of the mound and a pit dug from the centre of its top. The mound, which is of irregular shape, measures 540 yards in circumference at its base and has a maximum height of about 30 feet. Apart from fragments of burnished dark-grey and buff ware, an obsidian blade served to indicate that the accumulation of debris had started early at this site. But occupation down to medieval times was made probable by a piece from a large glazed bowl of mottled green.

From here we took our course towards the west-north-west in order to reach before dusk the important site of Hasanlū of which reports had reached me at Naghadeh. Its mound loomed big even from the distance of 4 miles which still separated us from it. The sight of a small nameless mound to the east of Ḥājī Fīrōz hamlet induced me to make a short detour to the south-west. The mound was found to rise to 27 feet with a diameter of about 90 yards at its base. Among the fragments of burnished red ware found on the top there was one painted with annular lines in darker red.

On arrival at Hasanlū village (marked with the locally unknown name of 'Khasani' on map No. 1.G.) there was still time to make a rapid inspection of the great mound (Fig. 106). It convinced me that the pits dug here and there two years before for Jew dealers from Urūmīyeh searching under licence for antiques had touched only a portion of what evidently was a large burial-ground dating from an early period of the occupation of the mound it adjoins. So I decided to concentrate for the remainder of my time in Solduz upon the Hasanlū site. A ride of some 7-8 miles in the dark enabled me to reach the Russian-made

road leading from Ḥaidarābād on the Urūmīyeh lake towards Naghadeh and thus to regain my camp for the night.

Next morning, September 8th, our camp was moved to Hasanlū. The march, this time in daylight, made it possible for me to understand better the peculiar configuration of the ground which provides the area round Hasanlū with ample water for purposes of irrigation, and thus assures its marked fertility, notwithstanding the fact that about 3 miles after leaving the river the road from Naghadeh crosses a low but steep rocky spur before descending at the hamlet of Delma towards Hasanlū. The village, for which the mean of our several aneroid and hypsometer readings indicate an elevation of about 4100 feet against 4400 feet for Naghadeh, seems to lie in a depression slightly lower than the height above the Black Sea (4258 feet) indicated by the map for Lake Urūmīyeh.

This depression forms a small basin separated from the shore of the lake and from the adjoining delta of the Gādar by a hill chain shown on the Russian map, which is careful in topographical delineation, with heights ranging from 5502 to 4725 feet. In its northernmost portion lies the drainageless small salt lake of Shōr-gul, which receives the terminal discharge of the canals carrying water from the Gādar to Hasanlū and the neighbouring villages. These canals take off from the river at a point which, according to the map, lies about 5 miles above Muḥammadyār, where the westernmost edge of the river's delta may be considered to lie. In reality we have here a case, in miniature as it were, of that deltaic bifurcation, well known on a big scale elsewhere, of a river feeding in its terminal course more than

one drainageless lake bed.[2] I regret that preoccupation with my archaeological task did not allow me to examine this interesting hydrographic observation closely on the ground.

I may note here that the fields of Delma to the north of the spur above-mentioned are watered, not by the canal of Hasanlū but by a channel taking off from the river higher up and carried through the end of the spur by a cutting. The cutting is certainly not of recent date; but whether the canal it serves had any relation with two small mounds found below the hamlet is very doubtful. On the northern one of the two, only 8-9 feet high, several painted sherds were picked up.

Section II—EXCAVATIONS AT HASANLŪ

Hasanlū is a considerable village counting some 150 homesteads. Its owner, an intelligent Kara-papak Khān, proved very helpful by providing an adequate number of diggers at reasonable wages, thus obviating the difficulty about labour with which we should otherwise have had to contend on account of harvesting operations. According to the information supplied by him, the burial-ground at the northern foot of the mound had been dug into by villagers for some time, first in the hope of finding 'treasure', and later with the more prosaic aim of using the good pottery vessels to be found in the graves. Digging for antiques had been carried on intermittently under a licence from Tehrān for *haft-gārī*, or commercial exploitation, by

[2] Two instances of this bifurcation in Central Asia with which I have become familiar are the terminal lake-beds of the Etsin-gol and of the Su-lo-ho (see *Innermost Asia*, i. pp. 333 sq., 387, 433 sq.).

Jew dealers from Urūmīyeh, but only with a small number of men. Yet when I inspected a kind of depot established by the dealers in a villager's outhouse the number of undecorated vessels of coarse make to be seen there, evidently left over as unsaleable, pointed to the operations having been fairly prolonged. It was of interest also to learn from the Khān that when his ancestor first settled at Hasanlū the inner circumvallation on the top of the mound, though in ruins, still showed in places portions of walls standing well above-ground.

The mound, as shown by Plan 25, rises close to the west of the village. It is skirted on the north and east by a canal just where this leaves the village. The mound proper measures at its foot about 323 yards from north to south with a maximum breadth of about 390 yards. Its greatest height is 70 feet at the southern end of the top. On the south and west the mound proper is adjoined by broken ground rising to about 15 feet above the field level and covered with Muhammadan graves. Along the eastern and northern feet there stretches a kind of terrace, from 70 to 100 yards wide, right up to the canal-bed over which it rises to about 15 feet. Including all the ground rising to a level of 15 feet, the whole site has a circumference of very close on a mile. It is on the northern portion of this fairly level terrace-like strip of ground (Fig. 108) that graves are to be found at varying depths down almost to the level of the canal-bed.

Between the southern foot of the mound and the hillocks occupied by Muhammadan graveyards there runs a cutting of comparatively recent date, meant for a branch canal, but never completed. At a level from 45 to 55 feet

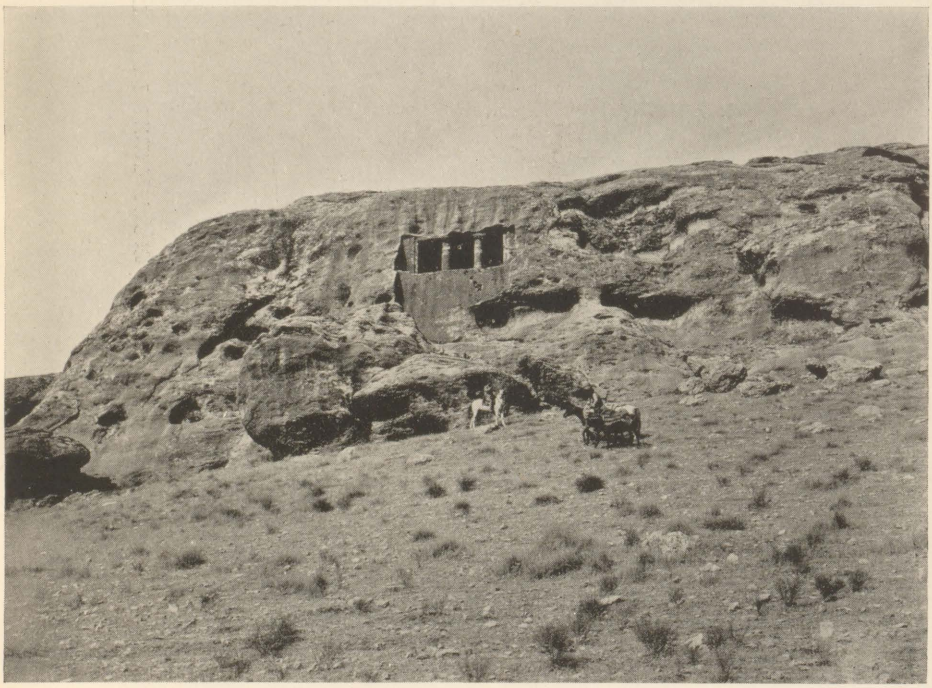
there can be followed over most of the slopes of the mound traces of a much decayed circumvallation marked by a low ridge rising 2-3 feet above a slight depression within. It may indicate the position of a rampart of stamped clay or a wall of sun-dried bricks, scarcely of any great age. The remains of an inner circumvallation, already referred to, running over most of the top of the mound at levels from 55 to 70 feet and some 30 yards from the outer enclosure are certainly of still later age. At a few corners the position of projecting small bastions or towers can be made out. Near the centre of this inner circumvallation was to be seen a depression descending to a level of about 40 feet: this perhaps marks the position of a well such as a defensible place on the top of the mound must have needed.

Excavation was started on the northern slope of the mound proper where it faces the burial-ground by cutting a deep trial trench in sections i-vii (Fig. 106). The surface at the top of section i lay at a level of 20 feet above the canal, *i.e.* at 5 feet above the flat top of the terrace. Excavation in section vii started at the level of 33 feet above the canal, *i.e.* at 18 feet above the terrace. In the course of three days the excavation in sections i-ii and v-vii was carried to a depth of about 3 feet below the level of the flat terrace, and in ii-iv to a level of 4 feet above the latter. Throughout, the soil below the top layer proved soft, thus facilitating the work. A shaft, 10 feet square, was dug in the 'well' on the top of the mound down to a level of about 34 feet above the canal, *i.e.* approximately to the same level at which the cutting in section vii started.

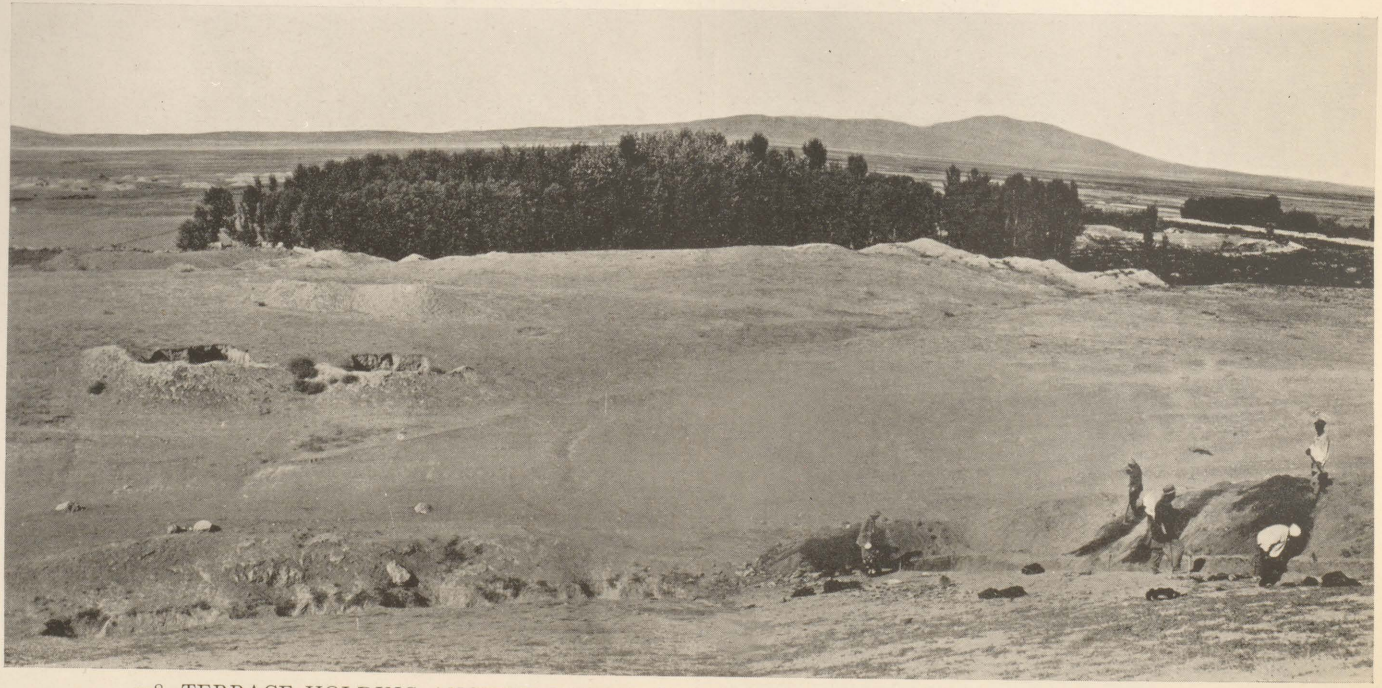
Before indicating specific finds in the several sections the general types of ceramic ware met in the trial trench



106. NORTH-WESTERN SIDE OF HASANLŪ MOUND, WITH TRENCH, SEEN ACROSS BURIAL-GROUND



107. ROCK-CUT TOMB OF FAKHRAKĀH ABOVE QUM-QAL'A



108. TERRACE HOLDING ANCIENT BURIAL-GROUND, SEEN FROM BELOW HASANLŪ MOUND

may conveniently be recorded. No definite indication of stratification was supplied by the pottery. As regards the fabric the ceramic specimens are about equally divided between terracotta or buff ware and grey-black ware. In about one half of the specimens of each of these types the surface is highly burnished. The proportion of burnished pieces was fairly uniform throughout all levels. Several of the burnished grey-black sherds show fluting or gadrooning, such as is found on vessels from the burial deposits to be described further on.

Not a single piece of painted pottery was found in sections i-vii, whereas among the ceramic fragments found in the shaft of the 'well' there were three showing painted decoration with simple geometrical patterns, done in one case in two colours. A single sherd showing a carefully executed geometrical design in red and black (33, Pl. XXV) was found on the southern slope of the mound. Incised decoration or annular ribbing was found only in a few pieces, and relief decoration on a single potsherd (1, Pl. XXIV). Glazing appears on two fragments, one found in i below 6 feet from the surface and another in vi at a depth of 16 feet; they probably represent import. It appears that throughout the period during which the debris layers disclosed by the trial excavation on the mound proper accumulated—and it must be assumed to have been a protracted one—only plain ware, frequently with a burnished surface, was in use. We shall see that the evidence of the abundant intact pottery found in the funerary deposits of the burial-ground fully confirms this.

Of specific finds those in section i were particularly numerous and interesting. Here at a depth of 12 feet

there came to light amidst, or quite close to, unmistakable remains of a small kiln eleven unpainted pottery vessels of different types and shapes. Burnishing is rare, and some vessels look as if not completely burned. Among them are bowls (see 2, Pl. XXIV) and jars, with or without handles and spouts. Special mention should be made of the small jar of tall echinus-shape 12, Pl. XXIV, on account of its peculiar spout, ending in an open, almost horizontal channel. A closely resembling spout is met with in Lūristān bronzes and is amply represented among the funerary deposits of Hasanlū (see 8, Pl. XXX). Quite close to this kiln and pottery, but on a slightly higher level, was found the small pottery trough (1, Pl. XXVI) supported on four short feet and having at one end a transverse depression evidently meant to facilitate draining a liquid. That it was used by the potter as a palette is made highly probable by a collection of hard pebbles (7-13, Pl. XXVI) found in two small jars nearest to the trough. The pebbles all show signs of having been used for burnishing. With them were found a small piece of copper and one of iron. The use of iron is attested also by fragments of iron rods with rounded and moulded ends which turned up in section i at a depth of 8 feet.

An earlier find, still more interesting perhaps, was made in section i at an approximate depth of 4 feet and under a flooring, about 2 feet square, of thin slabs of stone. A large pot of red, partly burnished, ware held a closely packed bundle of twenty-nine roughly cast bronze rods, some stuck together by corrosion (3, 4, Pl. XXVI). Their length varies from 8 to 11 inches; in width they taper from 1 to $\frac{3}{4}$ inch before ending in a rounded point; their thick-

ness is about 1 inch. They have been cast in an open mould and hence are flat on the upper side and rounded on the under side. With these were found eight flat bronze strips (see 5, 6, Pl. XXVI), varying in length from 8 to 12 inches. The ends are square, one wider than the other; the wider ones being $2\frac{1}{4}$ to $1\frac{3}{4}$ inches, and the narrow ones $1\frac{1}{8}$ to $1\frac{1}{4}$ inches. The thickness varies from about $\frac{3}{16}$ to $\frac{1}{8}$ inch. That these rods and strips served as ingots is scarcely doubtful.

At the bottom of the pot lay five small ingots of copper (see 4, Pl. XXV), measuring $1\frac{5}{8}$ inches in length, roughly $\frac{3}{8}$ inch square in section and thickening slightly at both ends. They have been recognized at the Assyrian Department of the British Museum as possibly shekels. Close to this deposit of ingots were discovered stone moulds evidently used for casting ingots and probably other bronze objects (19, 20, 23, Pl. XXVI). One large stone (23) measuring $10\frac{3}{4}$ inches by 4 inches by $2\frac{1}{2}$ inches, broken into two pieces, shows on the broad surfaces moulds for some broad-bladed chisel-like implement, and on one narrow face a mould for an ingot. Of each of two other stone moulds only one fragment was found (19, 20, Pl. XXVI). These pieces show on their narrow sides moulds for ingots, and on their broad faces others for objects which cannot be determined. On the edges there are holes for pins of the other (missing) half of the mould. The presence of these stones makes it probable that the whole deposit is a *cache* left behind by a metal-worker.

From section iii came a large pottery lug with flat triangular end, treated in a manner suggesting a grotesque face (15, Pl. XXVI). In section v there was found at a depth

of 7 feet a portion of a human skull without any other parts of the body. Lower down at – 10 feet lay a skull resting on ashes from a body which appeared to have been cremated. No bones survived near it. More interest attaches to a piece of hard baked clay found at a depth of 13 feet.

It had belonged to a sealing round a stopper of wood, since perished, which probably had served to close the mouth of some jar or other receptacle. The sealing bears two impressions from a cylinder-seal showing a device in two registers (17, Pl. XXVI). In the upper one are seen two animals advancing to the left, the foremost with head turned back, the second bearing a rider who appears to carry a levelled spear. Behind is seen a serpent erect on its tail, and above the first animal a sun. The lower register is vague, but seems to show a seated figure and a standing animal. The seal has been recognized on expert examination by Mr. C. J. Gadd at the British Museum as of Babylonian workmanship, and assigned approximately to the 15th century B.C. It thus supplies a *terminus a quo* for dating the layer of the mound when the accumulation of debris on it had reached a level of about 14 feet above the canal.

From section vi came a highly burnished black tubular spout (6, Pl. XXIV). Among the objects found in section vii may be mentioned a small conical whorl of lignite or burnt bone incised with circlets (16, Pl. XXV), and a bronze figurine cast on an iron core representing a grotesque animal showing the general type of a lion (1, Pl. XXV). Both were found in a stratum above the 20-foot level.

Having gained in the trench i-vii some information as to the pottery types represented in the mound proper, I turned

to a trial excavation in the terrace-like area to the north of it, which the pits dug by the villagers and antique seekers indicated to have served for burials (Fig. 108). I selected a strip of ground near the canal which these operations had left undisturbed. At first a trial trench was cut with sections viii-xiii for a distance of 50 feet, and subsequently another with sections xiv-xx 55 feet long and parallel to the former, some 40 feet nearer the canal. When dealing with the abundant results of the work carried on here for six days I propose to describe first the finds made in the order of the sections, and to follow up this account with some general observations. But I may note at the outset that throughout the potsherds and other debris showed this ground to have been actually occupied by the living, before the burials took place or after, during approximately the same period as is represented by the culture strata probed in the mound.

In section viii the first burial remains were found at a depth of 7 feet in a large pot containing the crushed bones of a child. With the body were found two small bronze bracelets, several little bronze rings and a number of minute bone beads evidently from a necklace. There was no funerary deposit near it. In section ix the digging, carried to a depth of 12 feet, brought to light a burial of distinct interest. The body was that of a full-grown woman laid out with the head approximately to the west and the feet to the east. The skull was much broken, but the teeth suggested youth. The fairly preserved thigh bones suggested tall stature. Around and above the body lay ashes and burnt earth, but there was no indication of cremation. Below the head was found a quantity of carnelian beads (10, Pl. XXV) of various shapes and sizes,

shell beads (13, 14), beads of glass, frit (11) and silver (15). A few beads made of gold foil, a glass cylinder bead and cylindrical discs of glass or frit of unusual type (12) may be specially noticed.

A very peculiar ornament was found over the woman's breast. This is a triangular plaque of thin iron (29, Pl. XXV) nearly 6 inches long and $3\frac{1}{4}$ inches across where widest. The plaque is bordered at the edges with a double row of round-headed bronze studs secured by shanks which pass through the iron plaque. Attached to the broader end of the plaque and partly overlying it was a quantity of thin short copper and iron tubes or 'bugles' (5, Pl. XXV), compacted by corrosion for the most part into one bundle, about 11 inches long, while others had got detached.

In the bundle three sections could be distinguished. The top one comprised about thirty-five tubes of copper dependant from small rings. Next to them, separated by small copper beads, hung thin tubes of iron and below them again copper beads and tubes similarly arranged and forming the bottom section. This assortment of thin tubes and beads, when hanging over the lady's breast, must have vibrated and produced a pleasant musical tinkling whenever she moved. Fragments of a long tapering iron rod, badly perished, were found near the breast. Of three iron rings one was found encircling a toe bone (2, Pl. XXV).

In keeping with this elaborate, if rather cumbersome, adornment of the body was the plentiful funerary furniture. By the side of the body lay a large ovoid jar, $15\frac{1}{2}$ inches high and 12 inches in diameter, having three strap handles above the keel. Next to this stood a large

grey-black jar, 8½ inches high, with a long projecting spout of the type already noted above and boldly gadrooned like 12, Pl. XXIV. Near by lay a black burnished patera, a tripod pot of burnished terracotta with an arched handle (broken) above the mouth (4, XXIV; 6, XXX), and half a dozen small pots of varied shapes. The patera held ashes and fragments of bones from some small animal. With the body in ix was found also a tubular bone pot (6, Pl. XXV), with incised circle and dot decoration.

In section xi the top layer of soil down to a depth of 7 feet held numerous sherds from small pots obviously broken while in household use; several of them showed decoration with painted annular lines. Lower down, at −8 feet, was found a typical set of funerary vessels by the side of a badly decayed skeleton. There were two large ovoid jars, 16 inches high and 12 inches in diameter, provided with three strong strap handles, one of dark red ware (12, Pl. XXX), the other grey-black burnished. A large jar of grey-black body has a short spout ending in a horizontal open channel (10, XXIV); its type is similar to that of the jar 12, XXIV, but with a different treatment of the spout. Two small projections by the side of the channel suggest protruding eyes. The upper part of the body is scored with vertical lines in a fashion suggesting gadrooning. While this type of jar was obviously meant to be used by the dead for pouring water into the mouth, two shallow wide-mouthed bowls (7, Pl. XXXI) are likely to have served for bread or other foodstuff. Of two small cups, one buff (11, XXX), the other black and burnished, the second (13, Pl. XXX) is decorated with four annular ribs above the keel and has a graceful shape.

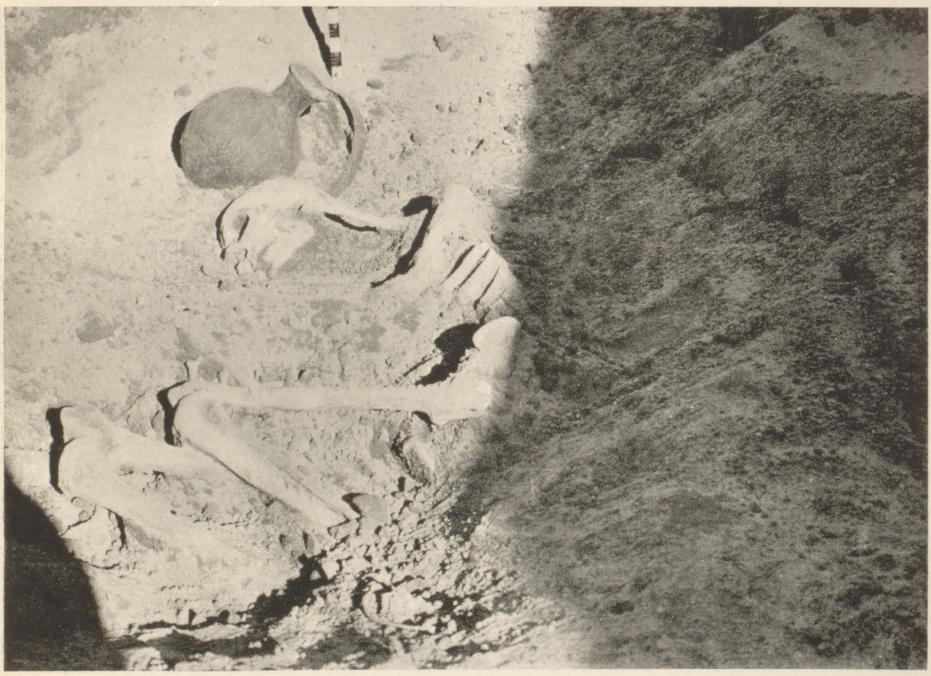
The remains of a burial found in section xii at a depth of 8 feet had suffered much damage. By the crushed bones of an adult, which is likely to have been a woman, lay a large broken pot holding the bones of a small child. From below the skull were recovered a quantity of beads of carnelian, glass and shell. With them were found a cylinder bead or seal of frit (30, Pl. XXV), decorated with simple lines; an incised hemisphere of ivory (22, XXV); a small pyramid of green-marbled stone, drilled; a dark glass disc bead inlaid with two concentric white circles (25, XXV), and two much corroded iron spikes (21, XXVI). Several copper finger rings were found on a finger-joint, and close by fragments of two small copper bangles.

The modest burial furniture comprised a wide-mouthed vase (8, Pl. XXIV; 14, XXX) having two handles and decorated with a zone of pearls in relief; a large grey-black jar with a spout (broken) showing protruding 'eyes' on the channel as on the jar 10, XXIV, and an echinus-shaped pot found with the spout broken off. From section xiii the only object to be noted is a stone implement (22, Pl. XXVI) which may have served as a muller.

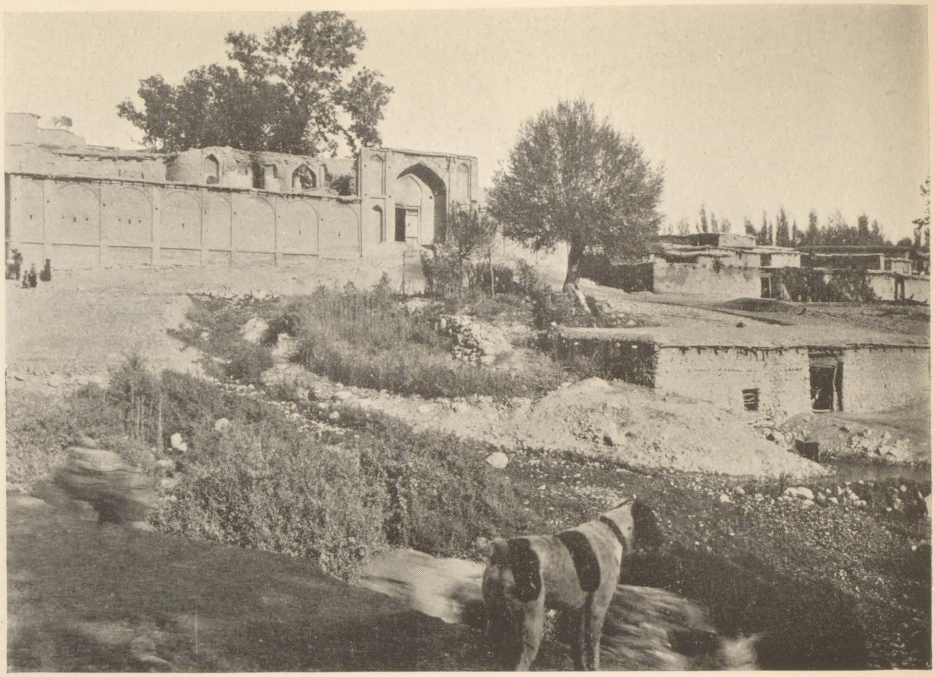
Section xiv held two burial deposits. In the first, at a depth of 9 feet, there was found a large ovoid red-dressed jar with three handles similar to 10, XXX, with a small pot by its side. A little further off lay a pair of gazelle horns. Lower down a decayed skeleton was found. The head was facing the east; the teeth suggested a man of middle age. The body lay fully stretched out with the arms along the breast. Above the head stood a long-spouted large grey-black jar of the same type as 10, XXIV, but with vertical grooves only at the back near the handle;



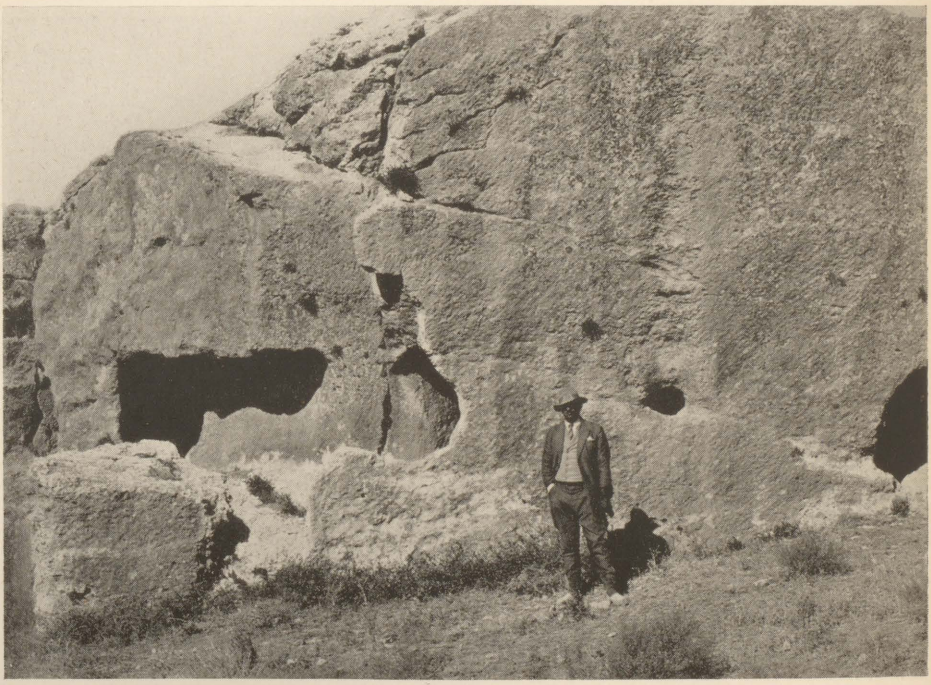
109. BURIAL FURNITURE IN GRAVE XIV, HASANLŪ



110. BURIAL IN GRAVE XV, HASANLŪ



111. HOUSE OF GŪRĀN CHIEF, GĀHWĀREH



112. ROCK-CUT CANAL ABOVE BARDA-KUNTE, SAUJ-BULAGH

by its side was a small pot. Around these vessels lay the skull and bones of a sheep, and amidst these an iron blade broken into two pieces.

The second body in section xiv was found farther to the north, at a depth of 11½ inches (Fig. 109). It lay in a crouching position with the head to the north and with the face turned sideways to the east; the arms were raised to the height of the neck. Close above the head stood a large grey-black burnished jar with a long spout, similar to the specimens already noted (9, 10, 12, XXIV) but without any fluting; next to it was a wide-mouthed grey-black bowl, found broken; and by the side of the latter a tall barrel-shaped jar (7, XXIV, 13, XXXI), 9⅝ inches high, with two handles roughly modelled as ibex heads and shallow vertical channels carelessly scored down to the base. Inside this jar was found a small pear-shaped pot of terracotta colour, with the base broken away, and containing a fragment of a bronze needle. Below the neck of the body were recovered small bronze pins with ends moulded baluster-like, and two square 'spacers' of copper sheet providing three channels for cords (23, 24, XXV). I noted that the spouted jar held small animal bones.

In section xv there was unearthed at a depth of 12 feet a skeleton in crouching position with legs drawn up and with the head laid to the north and the face turned to the east (Fig. 110). At the head stood a jar with tall upright neck (3, Pl. XXIV; 8, XXXI), 10 inches high, dressed rich red and decorated over a broad zone of buff with bold triple-lined triangles cross-hatched in red and black. By the side of it lay a wide-mouthed echinus-shaped bowl,

dressed rich red (1, XXXI). Below the neck were found a small pear-shaped pendant of white stone (21, XXV), a carnelian disc head (27), and a small copper ring (20). Extending from the jar towards the head lay a copper javelin head (2, XXVI), with a circular blade, solid at one end and tubular at the other for about half the total length of 8 inches. Part of the wooden shaft still remained. The skull has been brought to London for examination.

The burial found in section xvi at – 10 feet contained a body, probably that of a woman, laid in a crouching position with head to north facing eastwards. At the neck were found a bronze pin (17, Pl. XXV) and two bronze rings, one of them bent into two loops, with a bridge between. The ample furniture comprised a grey-black jar of the same type as 10, XXIV, with a bold spout; a wide-mouthed bowl; a grey-black bulbous jar (10, XXX), and two small echinus-shaped jars placed mouth to mouth. In the same section xvi, but on a level 4 feet lower, was found a child's body with head to north and limbs contracted. The furniture was confined to two very small jars and a little dish, found broken.

The body buried in section xvii at a depth of 10 feet lay with legs bent and arms raised over the breast, holding a tall tankard (11, XXIV; 9, XXX) against it. By the side of the dead a roughly made 'offering dish' (5, XXIV) on a hollow foot was turned over bones of a sheep. A thin bronze bangle was found on the breast. Three small jars of ovoid shape painted with annular bands on the shoulder were found at a depth of $7\frac{1}{2}$ feet. Like the stone pestle (14, XXVI) and some seven unbroken egg-shells lying slightly higher and still holding a dark yellow

matter, they probably had no connexion with the burial.

Section xviii held a burial with typical furniture at a depth of 10 feet. To the north of a much-broken skull lay on one side an ovoid jar, 8¼ inches high (11, Pl. XXXI), similar to one found in xiv (7, XXIV), with two handles modelled as ibex heads ; on the other side was a dark-grey burnished jar with long spout (9, XXIV), decorated on its body with two pairs of nipple-like projections. Nearer to the skull were placed a red-dressed globular vessel 9½ inches high, and two small pots. In a layer 2 feet higher was unearthed a shallow bowl (2, XXXI). Finally mention may be made of the half of a large round dish (16, XXVI) with conical feet made of dark grey stone found at −9 feet in section xx. Like other detached objects previously referred to, it belonged to debris dating from the period of occupation of the site by the living.

The observations recorded above show that burial customs and deposits had remained fairly uniform during the period when this ground had been used as a graveyard. Judging from the different depths of the graves, this period may be assumed to have been a protracted one. That it approximately coincided with the period to which the strata in the mound proper, tested by the trial trench, belong, can be safely concluded from the general resemblance of the ceramic types. All the graves disclosed lay at depths varying from 7 to 12 feet below the surface level of the terrace. Miscellaneous debris, such as sherds, burnt earth, stones of floors, etc., left no doubt about this ground having been occupied more or less continuously, if only sparsely, by dwellings. At a depth of 16 feet these indications completely stopped, as was seen in section xiv where

excavation was carried down to a depth of 19 feet, *i.e.*, below the canal level. The dead were usually, but not always, laid in a crouching position, generally with the head northward and the face turned to the east. For children burial in pots appears to have been usual. In the case of women personal ornaments were left on the bodies. Judging from those found on the lady's body in section ix, iron appears to have been still an article of some value.

The funerary furniture ordinarily comprised one or two large jars of tall shape, probably meant for food-stuffs such as flour or grain, and a long-spouted jar, always of grey-black body and usually burnished, to hold water. From this latter, as the shape of the vessel shows, water could be poured with ease straight into the mouth as is still the practice when drinking, as the present people of Lūristān do, from a skin. Besides these there were usually a shallow bowl, likely to have been meant for loaves of bread or the like, and an assortment of small pots intended for varied contents which cannot be determined now. The fabric clearly showed that all the ceramic ware had been made for ordinary household use and not for funerary purposes only.

Section iii—RETURN TO KIRMĀNSHĀH

From the uniformity of customs and deposits observed during six days' digging at Hasanlū it could be reasonably concluded that even long-continued excavation over this wide area was not likely to disclose any essentially novel facts. So when the careful packing of all objects, including half a dozen of well-preserved skulls deserving

of expert anthropological examination, had been concluded, I felt able to leave the site with a free conscience. It had been an interesting but also a trying time. The heat of the daytime was scarcely abated by the violent gales, due to ' aspiration ' from the high mountain range in the west into the lake basin, which blew daily, with rare interruptions, from forenoon until sunset. To keep one's eyes open in the dust raised from the trenches was at times very difficult in spite of the constant use of goggles. But this discomfort could not blind me to the interest of the wide view enjoyed in the early morning from our camp on the top of the great mound.

Apart from the high chain of the Zagros rising well within view above Ushnū and Lahijān there was a kind of fascination exercised by the scenery towards the great lake with its surface shimmering in the distance. So I took the opportunity before turning southward again to extend my inspection of two small neighbouring mounds near Barānī village, with ceramic debris of the same type as at Hasanlū, to the shore of that inland salt sea. After skirting the eastern edge of the Shōr-gul lagoons by the good Russian-made road the lake came into full view from the ridge which divides it from the small terminal basin to its south. As I looked across its wide utterly lifeless expanse to where its barren coast-line faded away in a haze I felt that here at the northernmost limit of my journey I had been brought within reach as it were of Tabrīz and the Caucasus, that outpost of Eastern Europe.

That impression was curiously strengthened when at the end of that 11-mile ride I had reached the shore of the lake near the small abandoned village of Talau.

There I found myself at a spick-and-span little port looking quite like a bit of Europe, but just as lifeless as the inland sea. Constructed only two years or so before to facilitate steamship communication to the north towards Tabrīz it had lost all its trade since the import of oil from the side of Irāq by the Rowandūz-Ushnū route had been stopped for the benefit of Iranian oilfields. The steamer touching at Talau once a week had left only that very morning. But the fine warehouse by the little railway running out to the solidly constructed jetty stood absolutely empty. Three pleasant officials, enjoying their ease in newly built comfortable quarters quite European in style, showed me over the silent administrative offices of the port. In the neatly kept little garden near by flowering shrubs and young fruit trees attested the Persian love of flowers and orchards. The water needed to keep trees and flowers alive and for human consumption is brought to Talau by a pipe-line from a spring 5 miles away in the hills to the north-west. It was pleasant to have had this glimpse of a Western miniature port undisturbed by bustle and noises.

The cold nights which set in quite suddenly with the calendar end of the summer served to warn me that it was time to regain Kirmānshāh and prepare for the planned autumn campaign in the south. For our return to Saujbulagh, instead of following the motor road which skirts the Gādar river and then the foot of the hills, I chose a route which took us past Sakse-tappeh into the hills at the pleasant village of Muḥammad-shāh. From its intelligent and obliging owner Muḥammad ʿAlī Khān, I had learned of three mounds in the vicinity not previously reported. On visiting them on September 22nd I found the mound about

half a mile north of the village quite a large one. It measures close on 600 yards round its base and rises to about 58 feet in a central knoll on the top. Thick grass covering the mound impeded the search for sherds, but those picked up on the surface indicated occupation from the period of the Hasanlū mound down to early Muhammadan times. An abundant stream fed by big springs renders the valley very fertile, and this accounts for the large settlement indicated by the size of the mound.

At the hamlet of Gūr-khāneh ('Place of Graves') about 2 miles farther to the north-north-east, a small mound is completely covered with dwellings and graves. Its antiquity is proved by two vessels of grey-black burnished ware which had recently been found in a pit dug for clay to make bricks with; one of them was a long-spouted jug of the type frequent at Hasanlū. A third mound about 1 mile to the west near the hamlet of Imām 'Alī measures about 270 by 210 yards and rises to some 30 feet. Here too sherds of grey-black burnished ware indicated occupation dating from the Hasanlū period. It probably continued into early Muhammadan times, as indicated by mottled glazed pottery.

Muḥammad 'Alī Khān had much to tell of the havoc wrought in Solduz during the War, when after the retreat of the Russians in 1917 and during the fresh Turkish invasion its population was decimated by famine. According to his estimate, which seemed well supported, the 5000 households of Solduz existing before the War was now reduced to 3000. He himself had fled to Maragha, well to the east of the lake, and had not returned to his village until Indian troops in the autumn of 1918 at the

heels of the retreating Turks had reached Sain-qal'a to the east of Sauj-bulagh. The village of Mamiānī low down on the Gādar river where Muḥammad 'Alī Khān remembered a large find of ancient vases and the like to have been made in a small mound some thirty years before, lay too far off to be visited.

Our march of September 24th took us first through the hills to the north-east and then up the valley of the Sauj-bulagh river to the village Qum-qal'a situated on the right bank where an old orchard offered a pleasant camping-place. From there I was able to visit first a low mound about 2 miles off to the north-east partly occupied by the dwellings of the Gök-tappeh village and measuring some 480 yards in circumference. On the refuse-covered slopes several sherds with painted decoration, effaced but of early look, could be picked up, besides fragments of grey-black burnished ware. Proceeding about 2 miles farther to the north we reached a deep-cut canal resembling a river branch, and beyond it the southern edge of a ruined area known as Shahr-i-Wīrān. Low mounds, still showing here and there lines of walls from decayed structures, probably medieval, cover an area of at least 450-500 yards in diameter. Vestiges of a circumvallation in the shape of a low winding rampart are traceable on the north and east sides. Near the centre remains of a brick kiln and a square structure, perhaps a mosque, were visible. The second deep canal-bed passes through the western portion of the enclosed area and is crossed by an old stone bridge. Plenty of medieval-looking glazed and incised potsherds, also of glass fragments, could be picked up at this site.

About 1½ miles to the north, beyond a ruined quad-

rangular enclosure of no great age apparently, scattered mounds mark an area known as Seh-gird which had evidently been occupied from a very early period. The highest of the mounds rises to about 25 feet. The length of this site from north to south is some 640 yards, but its extent would be greater if a stone-covered mound to the north is included. Fragments of red or terracotta pottery with patterns painted in black were to be found in plenty both on the highest mound and on a low one to the west. A large fragment has two painted zones, the upper one showing grotesque animal figures between trees, and the lower a geometrical 'reserved' pattern. Burnished black and dark-grey ware was scanty and glazed potsherds were completely absent. The site invited excavation; but, owing to harvesting operations and some local obstruction, it proved impossible to obtain labour without undue delay.

From Qum-qal'a I visited a rocky ridge rising abruptly above the alluvial plain of the valley about 1½ miles to the south-east. On its southern face it contains the rock-cut sepulchral chamber known as *Fakhrakāh* (Fig. 107). It resembles in its essential features the rock-cut tomb of Dā-ū-dukhtar described above.[1] Rawlinson had visited the chamber in 1838,[2] and his detailed account makes me regret less that in spite of efforts it proved impossible to secure locally the ladders or ropes necessary to ascend the vertically cut rock-face, about 28 feet high, to the chamber. The width of this cutting is 22 feet, and that of the platform in front of the tomb somewhat wider. The two massive columns at the entrance show capitals which, though badly decayed, looked of circular shape; those of the two

[1] See pp. 45 sqq.

[2] See *J.R.G.S.*, x. p. 37 sq.

columns within the chamber as viewed from below seemed to be cubes set on a kind of torus. The three receptacles for coffins which Rawlinson describes as cut into the floor of an alcove of the chamber, leave no doubt about the character of the excavation. On general grounds it may be ascribed to the Achaemenian period. For what royal dead it was destined, it is impossible to guess.

The northern and less precipitous face of the limestone ridge stretches for about half a mile from east to west and rises to a height of some 200 feet above the plain. On examining it I found that a kind of gully about 240 yards across runs down the middle of the ridge and is flanked on both sides from top to bottom by much decayed remains of walls, probably built with sun-dried bricks. Plentiful sherds, mainly of plain coarse ware, but some also of dark-grey polished pottery, can be seen on the slopes thus enclosed. It appears probable that this defensible position may have been used as a temporary place of refuge. It recalled to me on a small scale the topography of ' Raja Gira's Castle ', that ancient hill fastness in Upper Swāt.[3] Erosion by rain-water descending the slopes of the gully would explain the disappearance of the wall which must be assumed to have closed the defended area at the foot of the ridge.

On September 27th, when proceeding up the valley towards Sauj-bulagh, I was able to visit some rock-cuttings, about 3 miles above Qum-qal'a, noticed already by Rawlinson. Close to the point known in Kurdish as Barda-kunte (' Rock-Cutting '), where the principal canal of Qum-qal'a and neighbouring villages has its head, the river winds

[3] See *On Alexander's Track to the Indus*, pp. 54 sqq.

round the foot of a bare limestone hillock rising about 50 feet above the bottom of the canal. The south-west slope of the hillock has been cut into a succession of narrow ledges connected in several places by short flights of rock-cut stairs. Below these the line of a narrow rock-cut canal can be followed at a height of about 15 feet above the bed of the Qum-qal'a canal. In three places little tunnels, 2 feet 6 inches wide, have been driven into the rock leading apparently to small recesses. The stairs already referred to lead up the hillock to terraced ground at a height of about 40 feet, where an oblong shaft measuring 4 feet by 2 feet and 6½ feet deep has been cut into the limestone. A bevelled edge all round was obviously intended for a covering slab; small holes at the four corners may perhaps have been intended for pins at the corners of the covering slab. There is no indication as to what the shaft contained. But on general grounds the suggestion may be hazarded that the hillock saw some form of cult, just as in the case of the *su-bāshis* or 'heads of water' of irrigation canals in Chinese Turkistān.[4]

Going about a quarter of a mile farther up towards the village of Yūsūf-kand, the continuation of the same old canal is seen in the shape of a rock-cut gallery, 4 feet high and 2 feet 6 inches wide. Above and below for a short distance the outer rock-wall of the cutting has fallen off. About 100 yards farther on another short stretch of the tunnel is preserved where it passes above and behind a rock-cut recess about 10 yards square (Fig. 112). From a

[4] See as regards *su-bāshis* of Chinese Turkistān, marked by shrines from Buddhist down to Islamic times, *Ancient Kholan*, i. p. 189; *Serindia*, iii. pp. 1151, 1153; *Innermost Asia*, i. p. 167, etc. (see Index, s.v. *su-bāshi*).

flume passing down to this from the tunnel it may be assumed that the recess held a watermill. The line of the canal, here open, can be followed curving round the foot of the rocky scarp which overlooks Yūsūf-kand. The canal probably took off from the river some distance farther up and served to irrigate land near the village of Dariāz above the left bank of the river which otherwise could not receive irrigation from the present canal head at Barda-kunte.

From Sauj-bulagh Kirmānshāh was reached after three days' travel by motor car and lorry. On the way I was able to pay short visits to the friendly officers at Saqiz and Diwān-darra who had given kind help on my way before. At Senneh I had the satisfaction of being able to assure the kindly Governor, H. E. Mirzā Shahāb-ud-dauleh, by word of mouth of my sincere gratitude for his prompt and effective intervention during the incident at Saqiz and for all the preceding proofs of his friendly interest in my work.

By halting for one night at the village of Kaisarwand some 12 miles to the south of the Marwārī pass I was able to inspect the conspicuous mound of Tappeh-Kaisarwand which had attracted my attention from the road in June on my way to Senneh. It proved to rise 66 feet above a spring-fed rivulet and to measure some 310 yards in circumference on the top, where traces of an irregular circumvallation could be seen and fragments of Muhammadan glazed pottery were picked up. On the slopes red burnished sherds were found, but no painted ware. No indications of early occupation were traced at two small mounds visited near the neighbouring villages of Kamaragarrah and Sālārābād to the south-east.

On proceeding next morning to two small mounds known as Dō-tappeh about 1 mile to the south-west of Kaisarwand, I found fragments of red burnished pottery on one where graves marked by large stones had been dug up and searched in the familiar Lūristān fashion. At the second mound, measuring about 380 yards in circumference at the base and 15 feet high, there were no potsherds of any sort to be found, but curiously enough plentiful flint blades and worked cores lay on the slopes right up to the top.

They probably marked a stone-worker's place such as the small site of Sūr-jangal, discovered by me in the Loralai district of British Balūchistan, is likely to have been.[5] About 1½ miles to the west there lies the small village of Kūlīchān, partly built on a mound 25 feet high and at its foot measuring about 420 yards in circumference. Apart from a number of graves marked by large stones and all duly opened, the antiquity of the mound was proved by pieces from small jars of burnished red ware and a fragment of painted ware.

Section iv—FROM MAHĪ-DASHT TO THE TIGRIS AND EUROPE

At Kirmānshāh the very hospitable welcome accorded at the British Consulate by Mr. and Mrs. Vaughan Russell provided a very refreshing rest. The kind attention received on the part of my hosts and the facilities enjoyed under their roof helped me greatly to face the long and unforeseen delay which occurred over the arrangements needed for my onward journey to the Pusht-i-kōh and along its foot to Khūzistān. Preparations for the expected

[5] See *Archaeological Tour in N. Balūchistān*, p. 5 sq.

visit of His Majesty the Shāh on a tour of inspection through the province absorbed all the attention of the civil and military authorities and made it impossible to secure the gendarmerie escort considered necessary. Fortunately the delay could be utilized for manifold tasks, such as the final revision of large bundles of proofs of my *Archaeological Reconnaissances* and the safe repacking of antiques.

However, after His Majesty's tour had safely terminated it became possible to secure the needful gendarmerie escort. So by October 21st I was able to bid farewell to my kind hosts and to set out with fresh mule transport on the proposed long journey. I was anxious, before turning to the Pusht-i-kōh region, to gain some acquaintance with the tracts lying along the ancient high-road which leads from the Median plateaus down to the Mesopotamian plains. So, after reaching the wide valley of Mahī-dasht by the first march from Kirmānshāh, a week was devoted to a rapid survey of the very numerous mounds scattered over considerable distances in that fertile tract. For the localities near which they are situated, reference may be made to Map No. 2.J of the Survey of India.

Having pitched camp near the village of Lūr-i-Zengeneh, I visited, on a long and tiring reconnaissance ride, a number of mounds to the south of the high road. To the west of the village of Jamashurān we found a large mound rising to 25 feet in height and measuring some 570 yards from north-west to south-east and nearly half that across. On its slopes a number of sherds painted with annular bands and other simple designs were picked up, also pieces of burnished plain ware, mostly red. Glazed

pottery was completely absent. On the other hand a second, but much smaller, mound to the east and quite close to the village was clearly marked by its glazed pottery debris as having been occupied in Muhammadan times. Two small mounds, one about 2 miles to the west and the other 3 miles to the south-east of Jamashurān, showed coarse plain potsherds besides glazed fragments.

During the next two days, indisposition, premonitory of the trouble experienced later, obliged me to leave the examination of a number of mounds situated to the north and south-west of Lūr-i-Zengeneh and known as usual in these parts by the term *chiā* (Lūr *chighā*) to Surveyor Muḥammad Ayūb Khān. Among these the mound of Dō-chiā, 30 feet high, bore evidence of early occupation, as besides sherds painted with bands in red or black there were found numerous worked stones. Glazed fragments, however, prove that occupation continued also into Muhammadan times. The same observation applies to ceramic remains found on the mound of Chiā Balek Khwāja-bāshi, measuring some 240 yards in diameter and 12 feet in height.

On the mound of Chiā Bahār, rising to 55 feet and measuring at its foot some 310 yards from west to east, were found several pottery fragments showing simple painted designs such as annular or wave lines and hatchings, besides burnished pieces. Here, too, worked flints were picked up. Among the three mounds of the village called from them Seh-chiā, two are covered by dwellings; the third, 15 feet high and having a circumference of 320 yards, yielded some burnished red sherds and also some flint blades. On the large mound of Chiā Ganūz, having a

height of 45 feet and a circumference of fully 850 yards, the Surveyor found, besides burnished red pieces, two fragments coarsely painted with black lines, also a flint 'blade' and a core. On the mound of Qabāq-tappeh, having a similar height and a circumference of more than 400 yards on the top, he picked up some sherds dressed red and painted with simple lines as well as burnished pieces and worked stones; glazed pottery was also represented.

Chiā Nargiz, a very conspicuous mound to which I had moved our camp on October 24th, was examined by myself. It has a conical shape, rising to a height of 65 feet and measuring about 300 yards in circumference at the base. The short trial excavation which it was possible to make on low swelling ground near the eastern foot of the mound with the small number of men obtainable while harvesting was proceeding, yielded only coarse plain potsherds. But up the slopes a considerable number of painted fragments could be collected. Among the specimens there are seen, besides geometrical patterns, a few showing portions of animal figures. A dozen worked flints were also among the surface finds.

On October 27th we moved down the western side of the valley to Sarāb-tirān by a long march. On the way I was able to see the mounds of Dō-chiā, Chiā Ganūz and Qabāq-tappeh already mentioned above. Sarāb-tirān, a small village, difficult of access owing to spring-fed marshes around, nestles below a conical mound, 48 feet high and about 230 yards in diameter at its foot. This showed on the surface flat-ribbed potsherds, also other late ware, besides a fragment with painted annular bands.

More interesting proved a visit paid thence to the site known as Khaibar, nearly 4 miles to the north-east, where digging for antiques was said to have been carried on some six or seven years before. I found there a natural ridge which had evidently been occupied on its top during historical times by a settlement of some size. The ridge, owing to its steep slopes and a marsh fed by springs along its northern foot, provides a strong position. The slopes of the ridge are overlain by debris up to a height of about 60 feet, where the native rock crops out. Above this there rise in the middle of the top debris accumulations from decayed structures to a height of another 30 feet. The artificial origin of this top portion of the mound is clearly shown by an ancient well lined with rough stone masonry and measuring 12 feet in diameter. Speculative digging done for some Kirmānshāh dealers had cleared it to a depth of 15 feet.

An oblong excavation made some 50 yards to the north of it into a solid mass of sun-dried brick masonry showing use of mortar was due to similar operations. I could learn nothing definite about finds made apart from large burnt bricks, which were said to have been all subsequently carried off by villagers around for building purposes. Below this central mound there stretches all round, approximately on the level of the natural ridge top, flat terrace-like ground up to a width of some 80 yards or more on the south but narrower on the north side.

All over this, as also on the central mound, red burnished sherds and fragments of flat-ribbed plain ware of good make were to be seen in abundance. The circumference of this surrounding plateau was fully 950 yards, while

that of the ridge at the foot was not less than a mile and a quarter. A few worked flints and the fragment of a perforated 'brazier' vessel picked up on the slopes pointed to the occupation of the site having started in early times. The total absence of glazed Muhammadan pottery made it appear probable that the mass of debris dated from historical times preceding the advent of Islām.

On October 29th a march of some 22 miles carried us to the south-west across the Milleh Fīrūn pass (5300 feet) and fairly open valleys to Gāhwāreh at the headwaters of the Āb-i-Zirkān, which drains into the Diyāla of Irāq. Gāhwāreh, a pleasant large village, is the centre of the hill tract of Gūrān, where the Kurd population seems to have remained to some extent unaffected by the modernizing influences spreading up the great high-road. The fact of the people being all of the Allāh-Ilāhī sect may have helped to preserve more of traditional ways.

From Gūrān had been recruited the tribal contingent of the Persian forces known as the Gūrān regiment, which was commanded by Rawlinson in the 'thirties of the last century. The welcome extended to us by Masa'ūd Sulṭān, one of the two Gūrān chiefs, was very friendly. When I could tell him something of the fame to which Sir Henry Rawlinson had risen and read out to him in translation a brief account of his march in 1836 with the Gūrān regiment to Qal'a-i-tul against Muḥammad Takī Khān, the great Bakhtiārī chief, just a hundred years before, the chief's attitude became truly cordial.

I should gladly have remained longer in pleasant Gāhwāreh (Fig. 111) among its homely Gūrān folk, but I

could not learn of any old sites apart from a mound near the hamlet of Barza, which we reached on November 2nd, after moving our camp to Simānī in the hills to the south-east. The mound proved some 60 feet high with very steep slopes and a flat top about 230 yards in circumference. A few fragments of pottery painted with annular and other simple geometrical designs, besides burnished buff ware and numerous flint flakes and cores, attested the antiquity of the site. The scantiness of arable soil on this high ground, which had so far remained partly unmapped, may account for the absence of other sites affording evidence of old occupation.

So I was anxious now to reach the great tract of Kalhūr to the south where we could link up our work with that done in the spring from the side of the Saimareh, and then start across the Pusht-i-kōh. Two marches, very tiring to me as I was still feeling indisposed, carried us partly across pleasantly wooded hills to the interesting old town of Karind on the ancient high-road. The place is mentioned by this identical name in the 'Parthian Stages' of Isidorus of Charax, written about the end of the 1st century B.C., as a stage on the Royal Road from Seleucia on the Tigris to Ecbatana, the capital of Media. At the head of the picturesque gorge in which the town lies (Fig. 92) we found a charming camping-place just below the fine spring which sends life-giving water down the narrow alleys of the town. It was an inviting place for the short halt which my state of health now obliged me to make.

There, on the following day, I received the unexpected news through telegraphic instructions addressed to

M. Karīmī that permission for travel in the Pusht-i-kōh, included in my originally sanctioned programme as the terminal portion of my journey, had been withdrawn. No reason for the change was given either then or later. But since the Pusht-i-kōh region has been completely and carefully mapped before, as shown by the map-sheets of the Survey of India, it is hard to believe that the order reversing the previous decision was in any way connected with our previous route surveys.

In consequence of this unforeseen interdict I decided to return to Kirmānshāh, planning instead to continue work northward in the direction of Hamadān. I felt obliged to follow the well-known high-road except for parts of the first marches. This allowed me on the way up from Karind to examine the Tappeh-i-ʿAlīābād, a small mound where a number of fragments of grey ware painted with simple geometrical patterns and also a few flint blades attested early occupation. Further on, at the village of Hārūnābād, now renamed Shāhābād as the planned centre of His Majesty's great private domain, I visited the high mound partly cut down to make room for the oval square of the future town laid out at its foot. The sherds picked up on the slopes included fragments ranging from painted ware through red burnished pottery to Muhammadan glazed ceramics. It may hence be safely assumed that the stone with a short Greek sepulchral inscription which Commander J. F. Jones, of the Hon. East India Company's Navy, saw at the Khān of Hārūnābād in 1848,[1] and which has not been traced since, came from

[1] See *Selections from the Records of the Bombay Government*, N.S. 43, 1857; Jones, *Memoirs*, pp. 193-4.

this site. I regret not to have been able to search for it, as the friend who had kindly called my attention to this inscription in a letter received on my journey, through some misapprehension referred to the locality as being in the vicinity of Kangawar.

Having sought medical advice during some days' halt at Kirmānshāh, I resumed the journey northward on November 18th with my caravan. A succession of marches allowed me to visit the well-known remains of Bisitūn and Kangawar before increased illness obliged me to seek rest under the roof of the British Vice-Consulate building at Hamadān, and to abandon any further attempt at field work. The circumstances attending a long delayed but in the end successfully overcome operation, four months later in Europe, proved that this decision was taken by no means too soon.

By December 7th I was able to start on my homeward journey. On reaching Ahwāz by motor, the hospitable reception and kind help given by Mr. A. J. Gardener, H.M.'s Consul, enabled me to arrange promptly for the examination by the Iranian Customs of the cases containing antiquities, and to continue my journey by the Anglo-Iranian Oil Company's steamer to Mohammerah, now renamed Khurram-shahr. There I recovered fresh strength under the hospitable roof of Captain J. E. A. and Mrs. Bazalgette and arranged for the safe shipping to London of the collection of antiquities which, under the generous permission of H.M. the Shāh's Government, was to be temporarily deposited and examined at the British Museum. Finally, by the third week of December I bade farewell to my faithful travel companions, including 'Dash VI',

and proceeding to Europe *via* Basra and Baghdād, took leave of Irān. The happy memories of the years spent since 1931 on its ancient soil will accompany me wherever chances of fresh work may yet take me.

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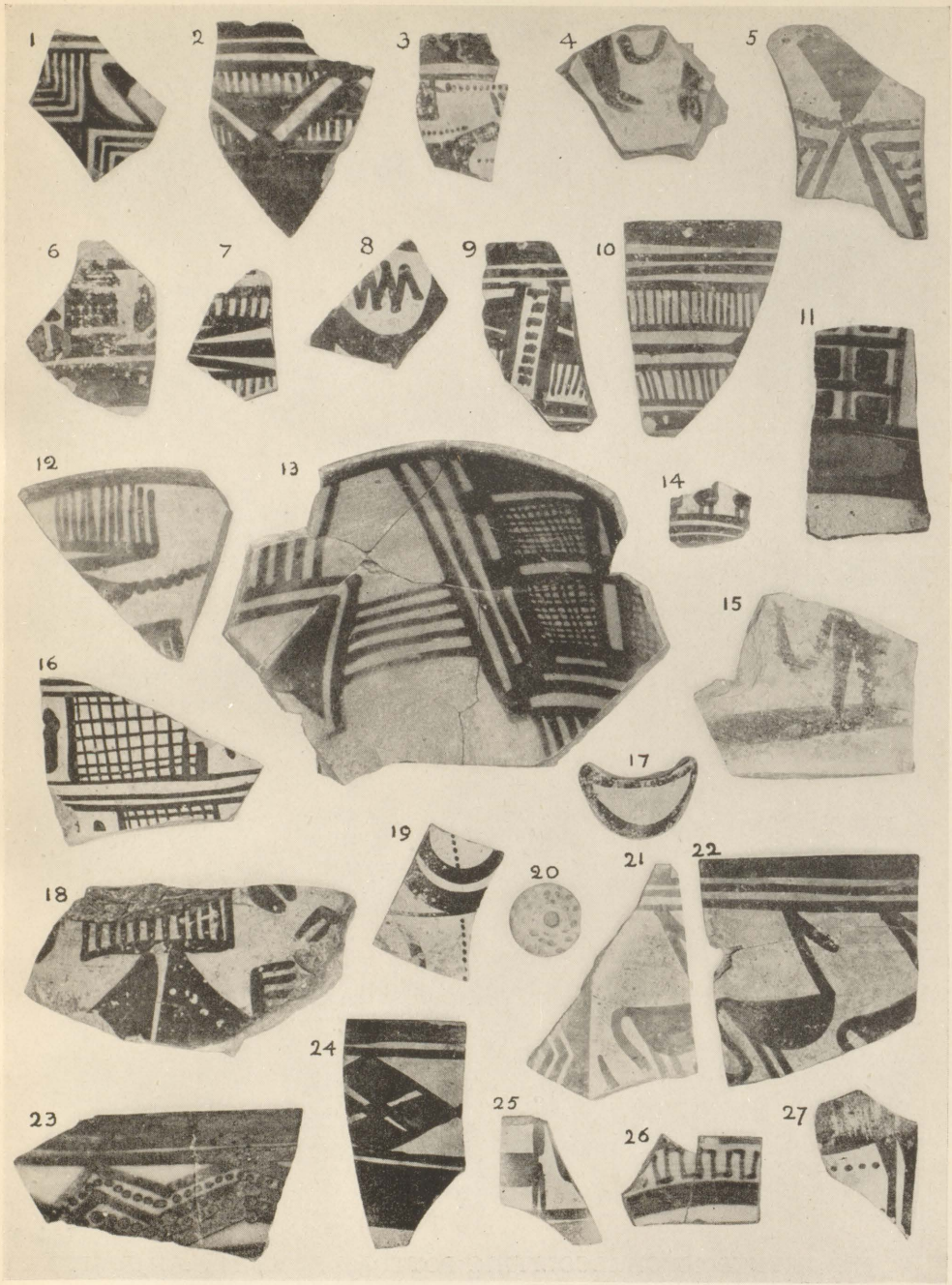
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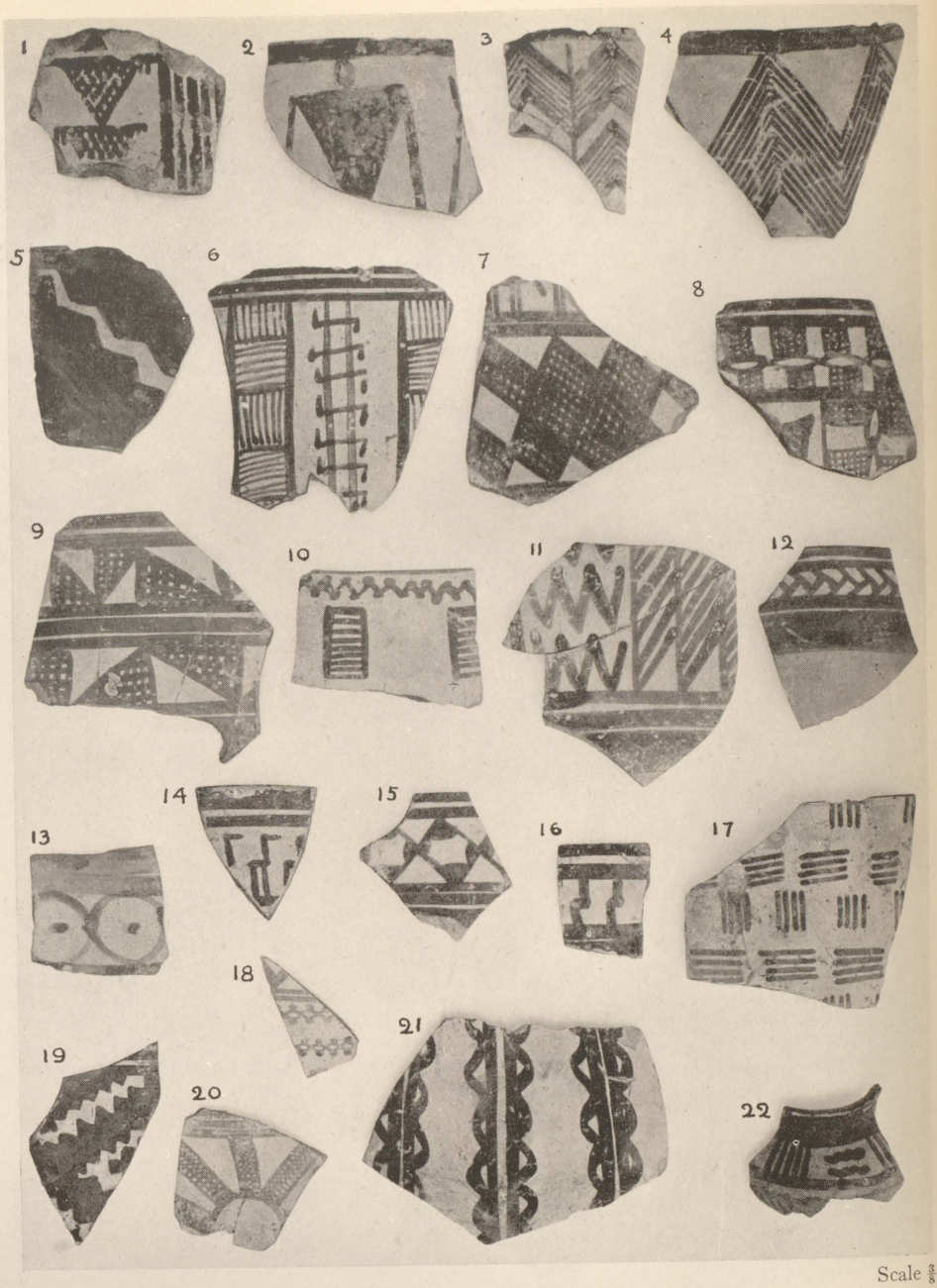


Scale $\frac{1}{3}$

FRAGMENTS OF CHALCOLITHIC POTTERY FROM TUL-I-GIRD (ARDAKĀN); TAL-I-HASANACH AND TAL-I-GŌREPĀH (BEHBEHĀN)

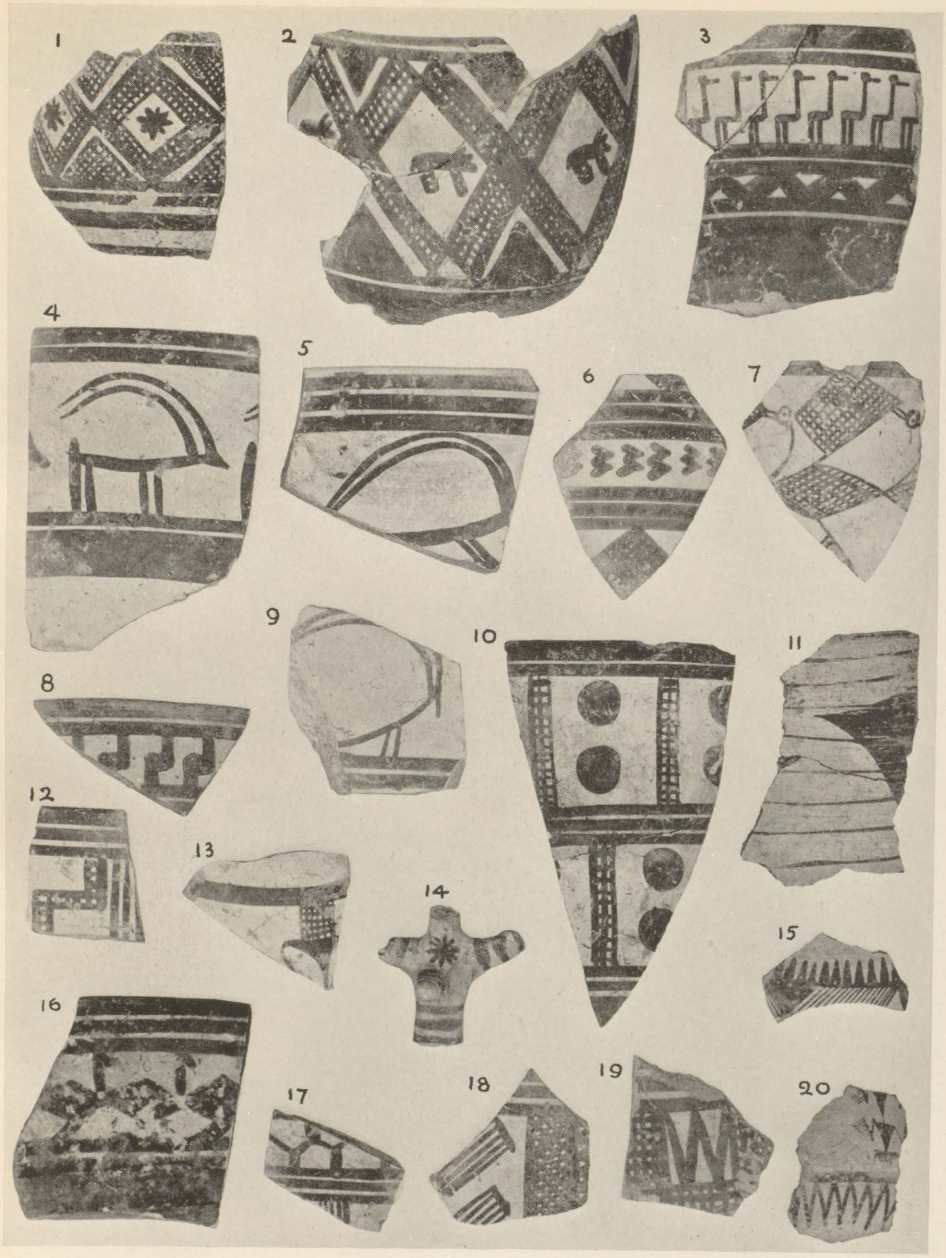
Provenance: Tul-i-gird (1-10); Tal-i-Hasanach (11-13, 15, 16, 18, 21, 22, 24, 25); Tal-i-gōrepāh (14, 17, 19, 20, 23, 26, 27)

PLATE II



Scale $\frac{3}{8}$

FRAGMENTS OF CHALCOLITHIC POTTERY FROM MĀLAMĪR SITE



Scale $\frac{1}{3}$

FRAGMENTS OF CHALCOLITHIC POTTERY FROM MĀLAMĪR MOUNDS

Provenance : Mālamīr site (1-10, 12-14, 16-19), Tul-i-Bāwa Muḥammad (11, 15, 20)



Scale $\frac{3}{8}$

FRAGMENTS OF HEAD OF BRONZE STATUE FROM SHAMI SHRINE, MĀLAMĪR



Scale $\frac{1}{4}$

FRAGMENTS OF BRONZE STATUES FROM SHAMĪ SHRINE, MĀLAMĪR

PLATE VI



Scale $\frac{1}{3}$

FRAGMENTS OF METAL OBJECTS FROM SHAMĪ SHRINE, MĀLAMĪR



Scale $\frac{1}{3}$

FRAGMENTS OF CHALCOLITHIC POTTERY, ALSO STONE IMPLEMENTS FROM JAIDĀR AND SAIMAREH

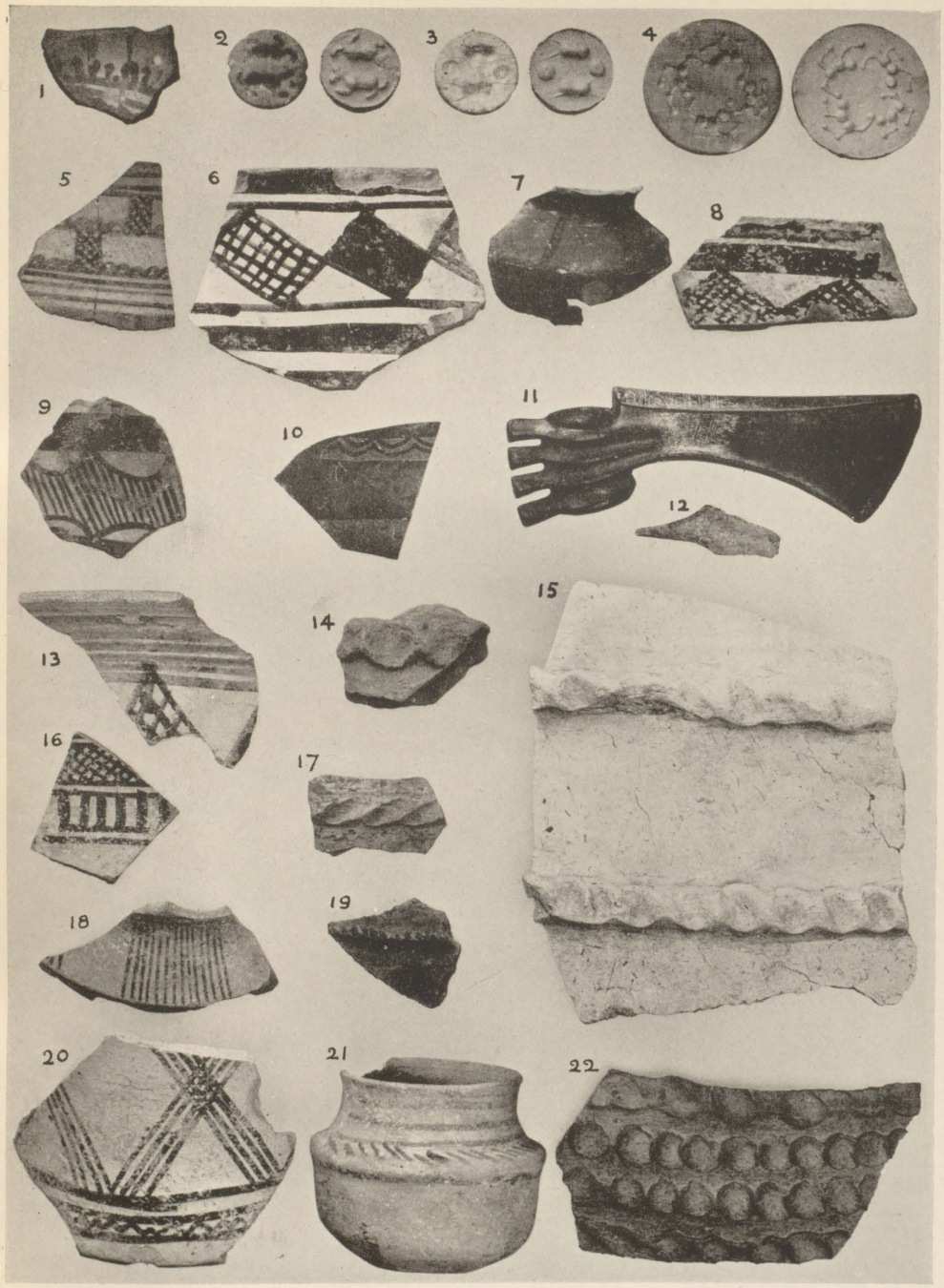
Provenance : Bāgh-i-līmū (1-3) ; Taikhān (4-13) ; Kōzagarān (14-23)

PLATE VIII



Scale $\frac{1}{3}$

FRAGMENTS OF CHALCOLITHIC POTTERY FROM KŌZAGARĀN, SAIMAREH



Scale $\frac{1}{3}$

FRAGMENTS OF POTTERY AND METAL OBJECTS, ALSO STONE SEALS FROM SITES OF SAIMAREH, RŪMISHKĀN, TARHĀN, HULAILĀN

Provenance: Yārābād (1); Chighā-sabz (Saimareh, 2-8); Chighā-sabz (Rūmishkān, 9–10, 21); Chighā-bardīna (12); Bāwa Gird-'Alī (14, 17, 19); Chighā-pahan (11); Mūrakūn (13); Kazābād (15); Qal'a-gaurī (16, 18, 22); Shīre-chighā (20)

PLATE X



Scale (1-16) $\frac{7}{16}$, (17-38) $\frac{3}{16}$

POTTERY, MISCELLANEOUS METAL OBJECTS AND BEADS
FROM KAZĀBĀD, HULAILĀN



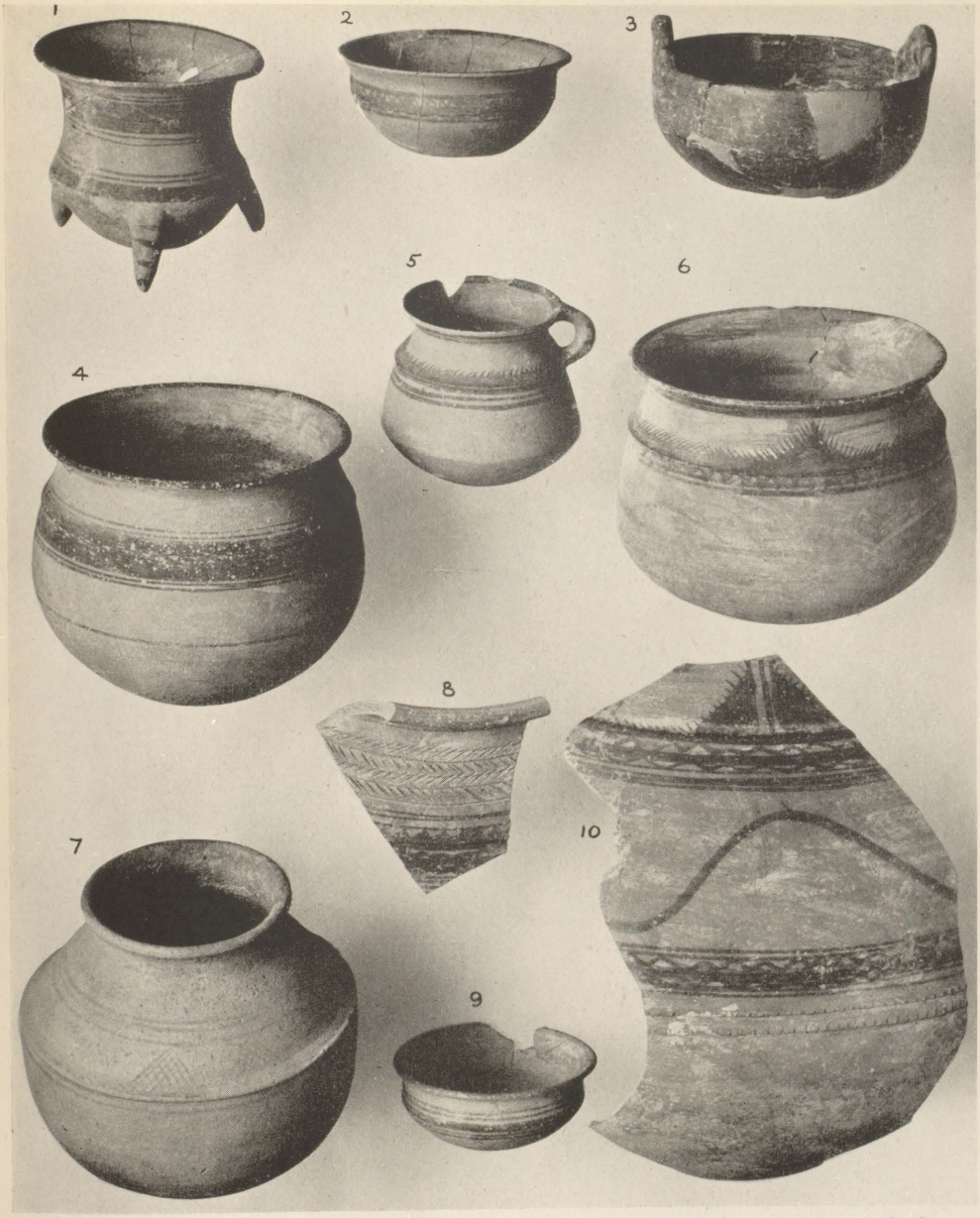
Scale $\frac{3}{7}$

FRAGMENTS OF CHALCOLITHIC POTTERY AND MISCELLANEOUS SMALL OBJECTS OF METAL, STONE AND BONE FROM CHIGHĀ-PAHAN, KŌH-I-DASHT



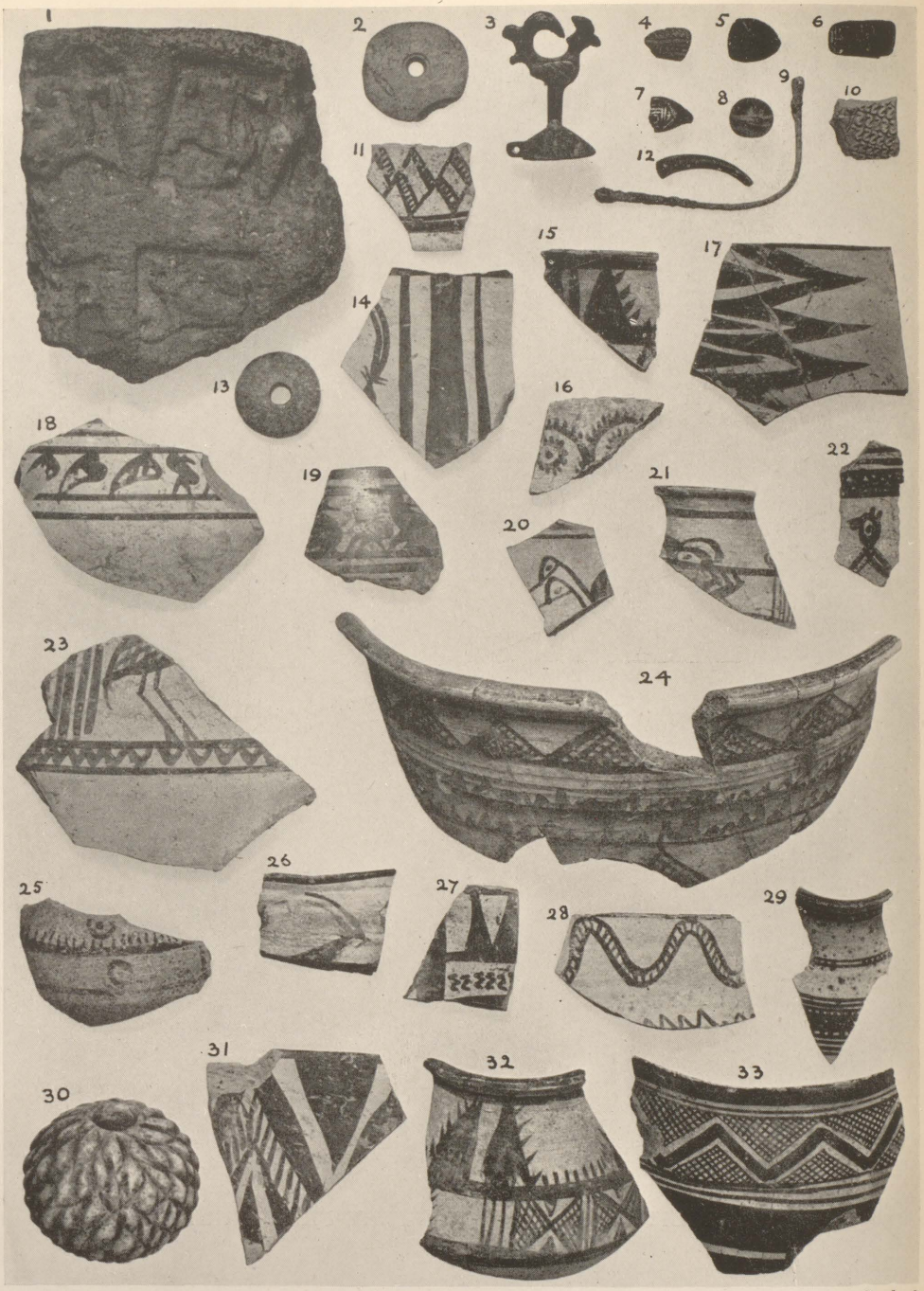
Scale $\frac{2}{3}$

CHALCOLITHIC PAINTED POTTERY FROM CHIGHĀ-PAHAN, KŌH-I-DASHT



Scale *c.* $\frac{1}{5}$

CHALCOLITHIC PAINTED POTTERY FROM GIRAIRĀN



Scale $\frac{2}{3}$

FRAGMENTS OF POTTERY AND SMALL OBJECTS OF METAL, STONE AND GLASS FROM GIRAIRĀN AND OTHER SITES IN ALISHTAR AND KHĀWA

Provenance : Amīrī (1) ; Girairān (2, 4-19, 21-33) ; Alishtar (3) ; Chighā-kabūd (20)



Scale $\frac{2}{3}$

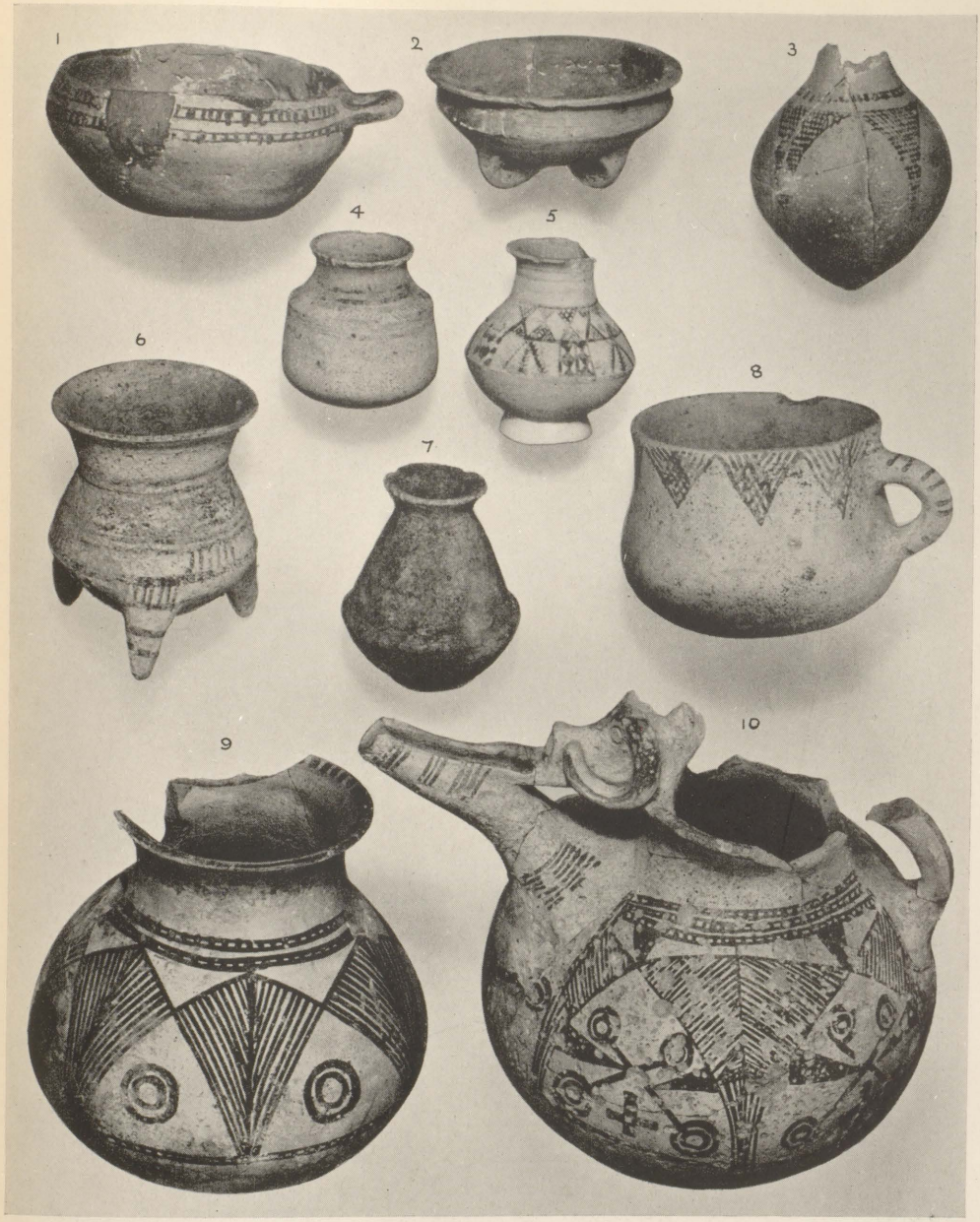
POTTERY, CHIEFLY CHALCOLITHIC, AND MISCELLANEOUS OBJECTS OF METAL AND STONE FROM SITES OF ALISHTAR, KHĀWA AND DELFĀN

Provenance: Batakī (1-4, 7); Chighā-bal (5, 6, 8, 10, 11); Chighā-kabūd (9, 12-18); Dum-awēza (19-22)



Scale $\frac{1}{2}$

COPPER DISH ACQUIRED AT DUM-AWĒZA, DELFĀN



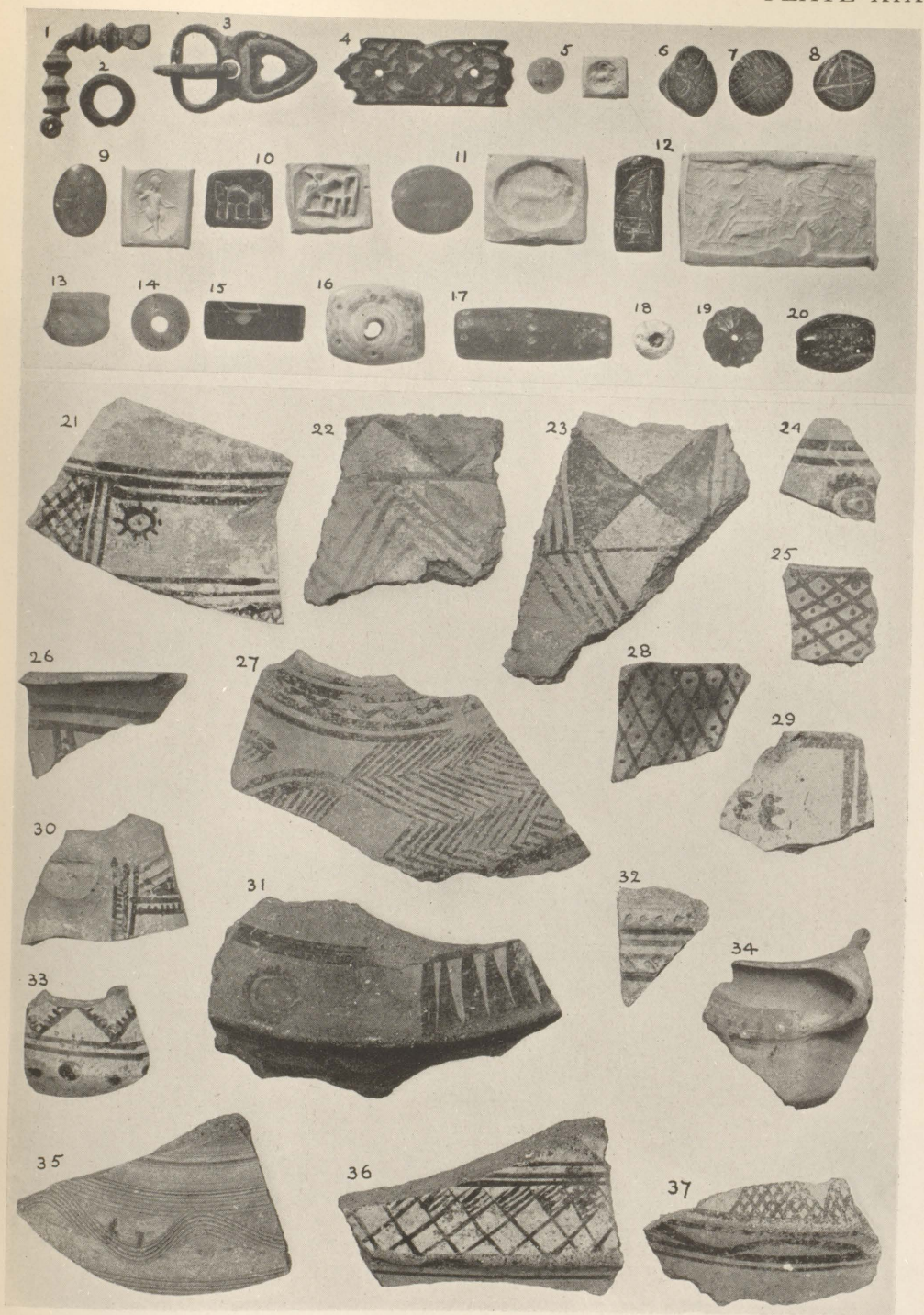
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PAINTED POTTERY FROM MAUYILBAK, DELFĀN



Scale (1-27) $\frac{3}{4}$, (28-47) $\frac{2}{5}$

PAINTED POTTERY AND MISCELLANEOUS OBJECTS OF METAL, STONE, GLASS AND FRIT FROM MAUYILBAK, DELFĀN



Scale (1-20) $\frac{5}{8}$, (21-37) $\frac{2}{3}$

FRAGMENTS OF PAINTED POTTERY AND SMALL OBJECTS OF METAL, STONE, SHELL AND GLASS FROM SITES OF MĀLAMĪR, DELFĀN, HARSĪN

Provenance : Telyāb (1-8, 10-20, 24-26, 28-33, 35-37) ; Mālamīr (9) ; Chighā-sai (21-23, 27, 34)



Scale ½

PAINTED POTTERY AND MISCELLANEOUS OBJECTS OF METAL FROM SITES OF SAIMAREH, RŪMISHKĀN AND DELFĀN

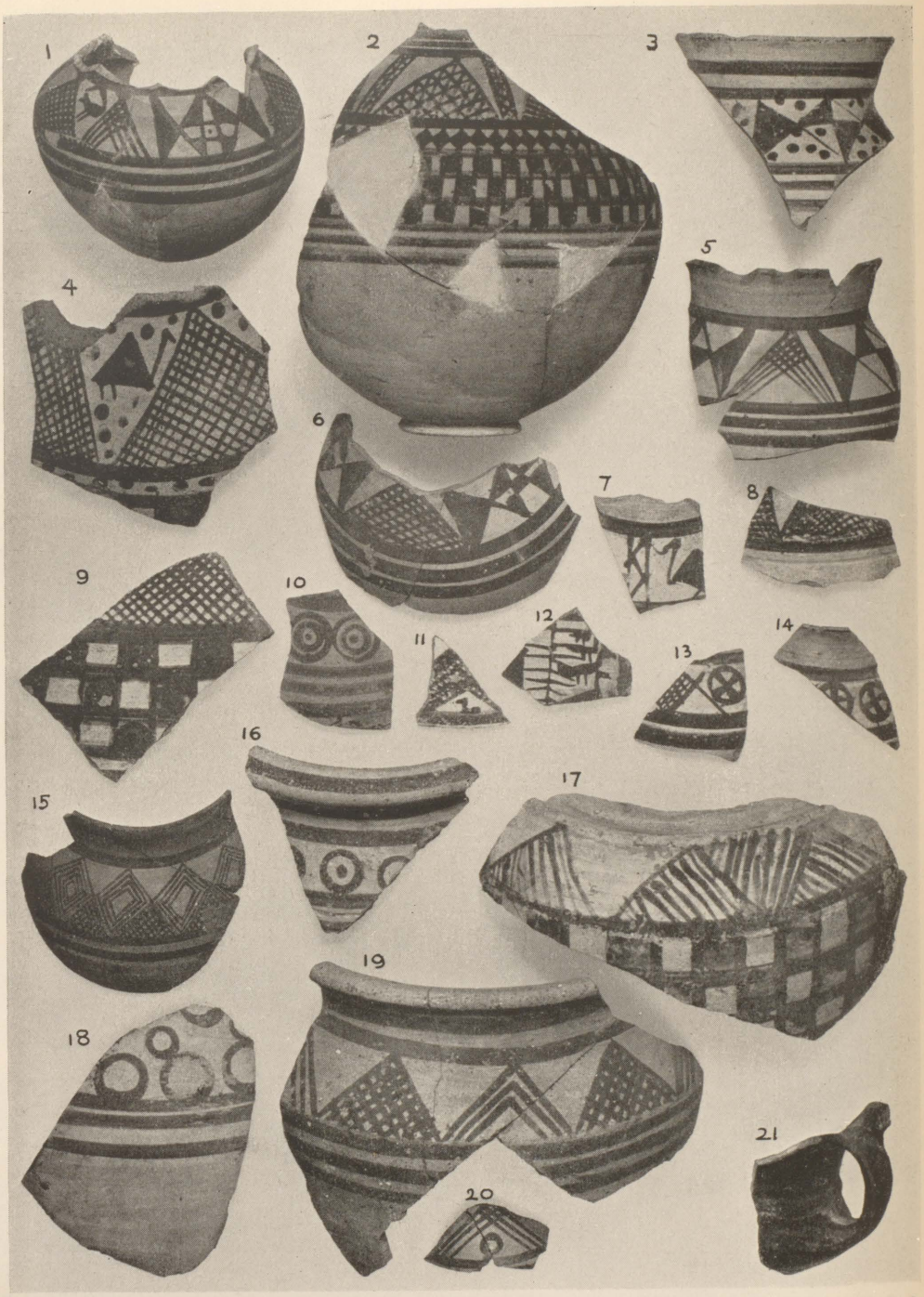
Provenance : Telyāb (1-5, 7, 9) ; Kōzagarān (6) ; Rūmishkān (10) ; Dum-awēza (8)



Scale $\frac{3}{8}$

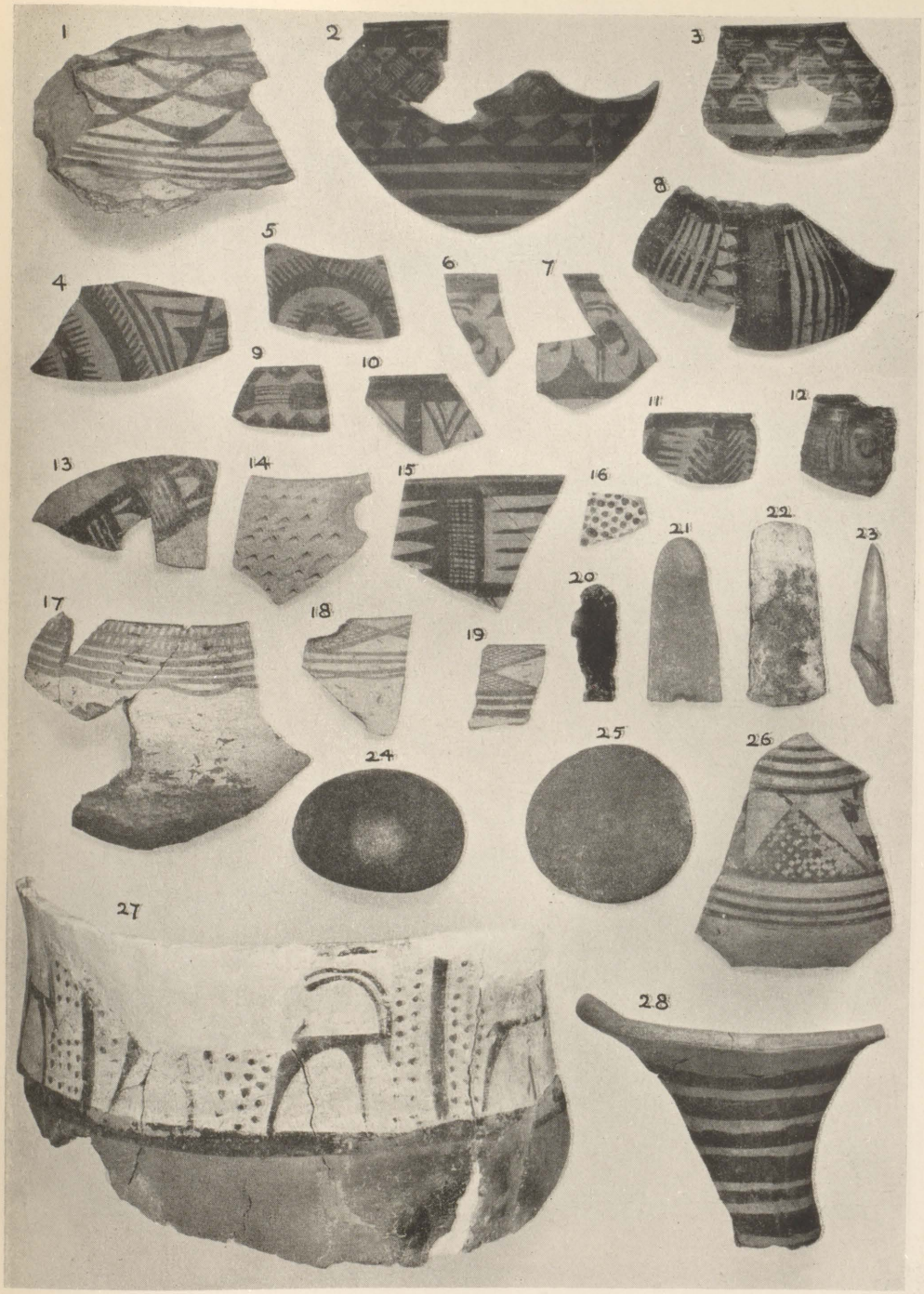
CHALCOLITHIC POTTERY AND MISCELLANEOUS OBJECTS OF METAL, STONE AND BONE FROM DINKHĀ, USHNŪ

PLATE XXII



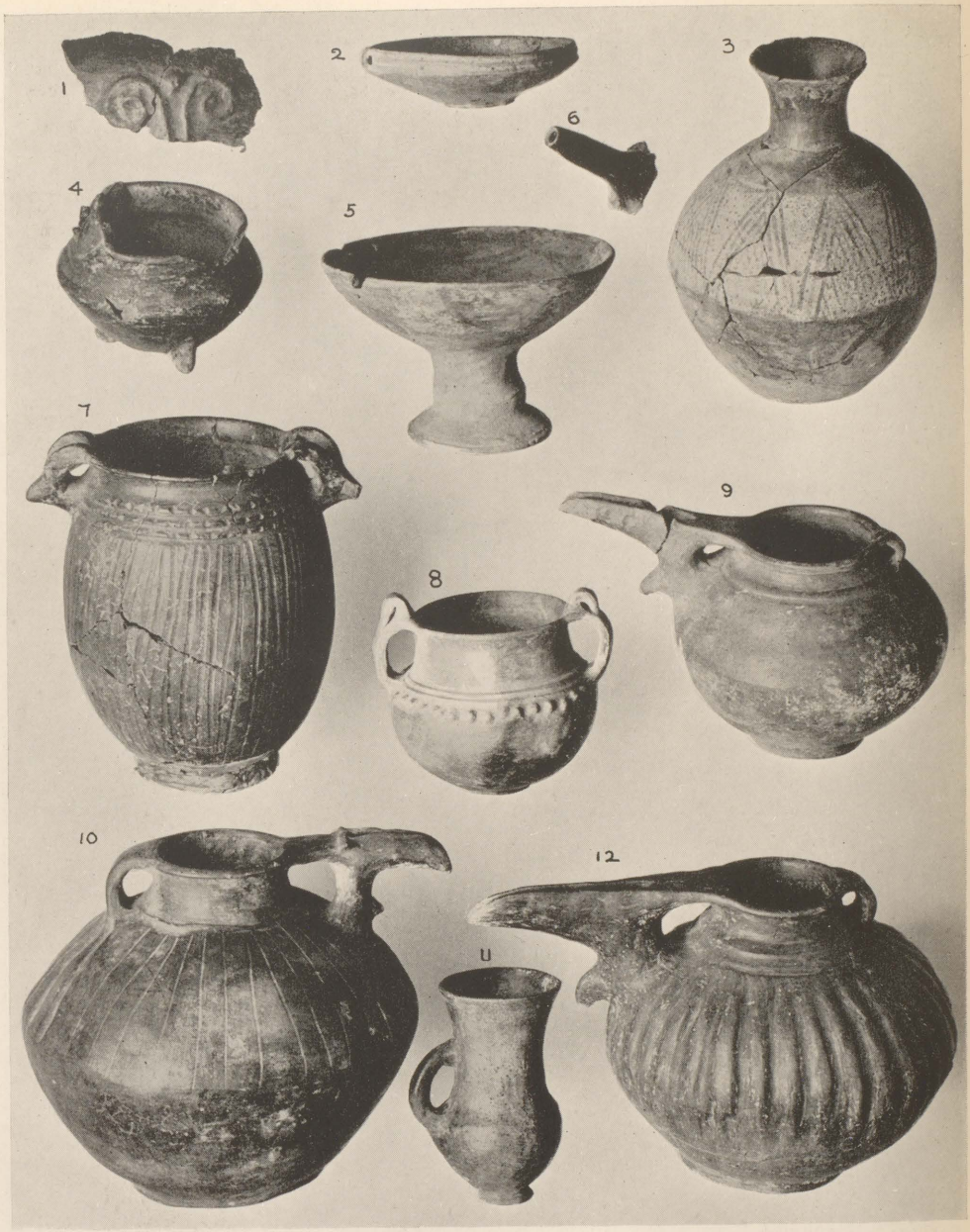
Scale $\frac{3}{8}$

FRAGMENTS OF CHALCOLITHIC POTTERY FROM DINKHĀ, USHNŪ



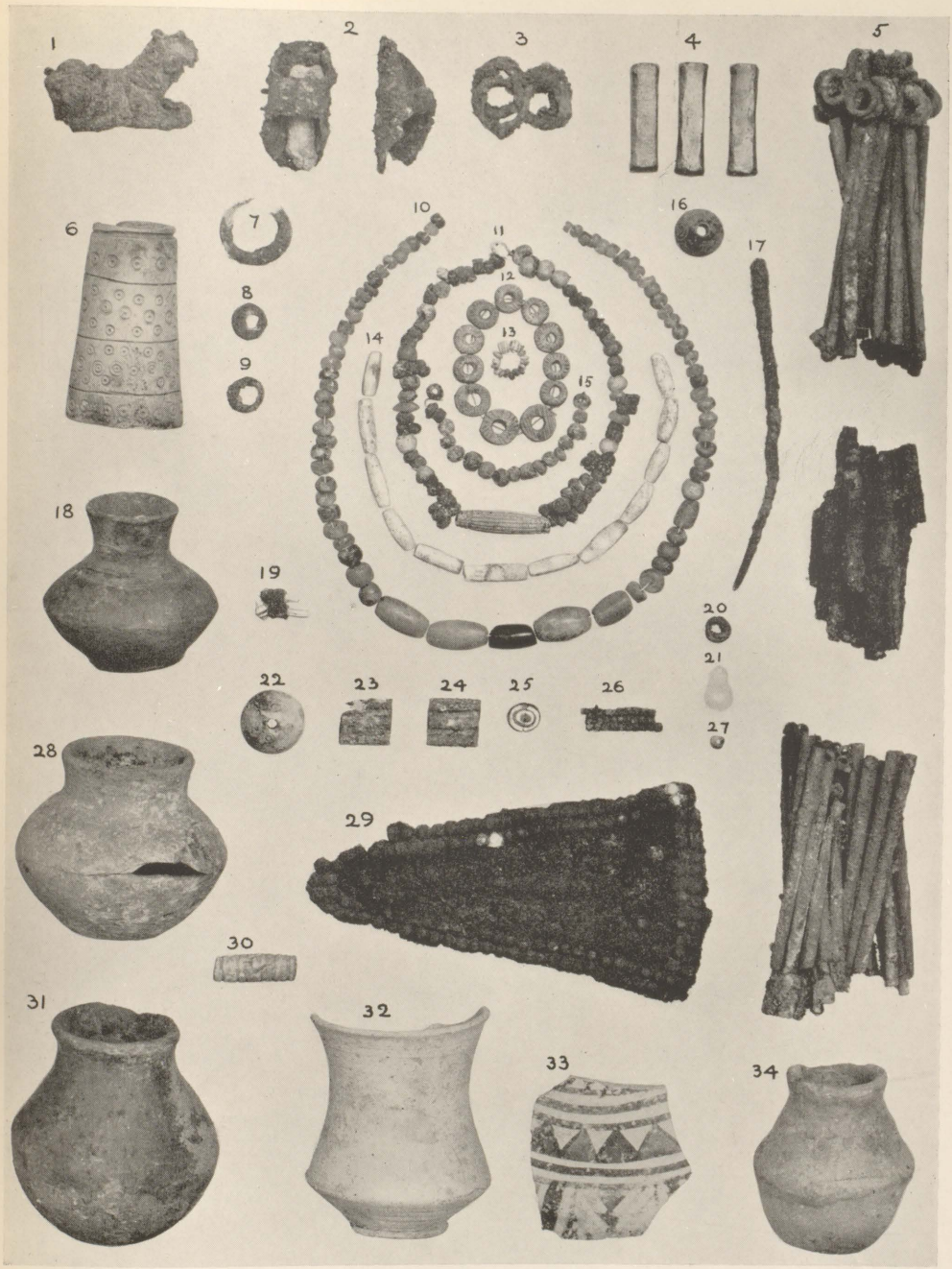
Scale $\frac{1}{3}$

FRAGMENTS OF DECORATED POTTERY AND MISCELLANEOUS OBJECTS OF METAL, STONE AND BONE FROM GIRD-I-HAṢAN 'ALĪ, USHNU



Scale $\frac{1}{5}$

DECORATED POTTERY, MAINLY FROM GRAVES, HASANLŪ, SOLDUZ



Scale $\frac{3}{8}$

POTTERY AND MISCELLANEOUS OBJECTS OF METAL, STONE, SHELL AND GLASS, MAINLY FROM GRAVES, HASANLU, SOLDUZ

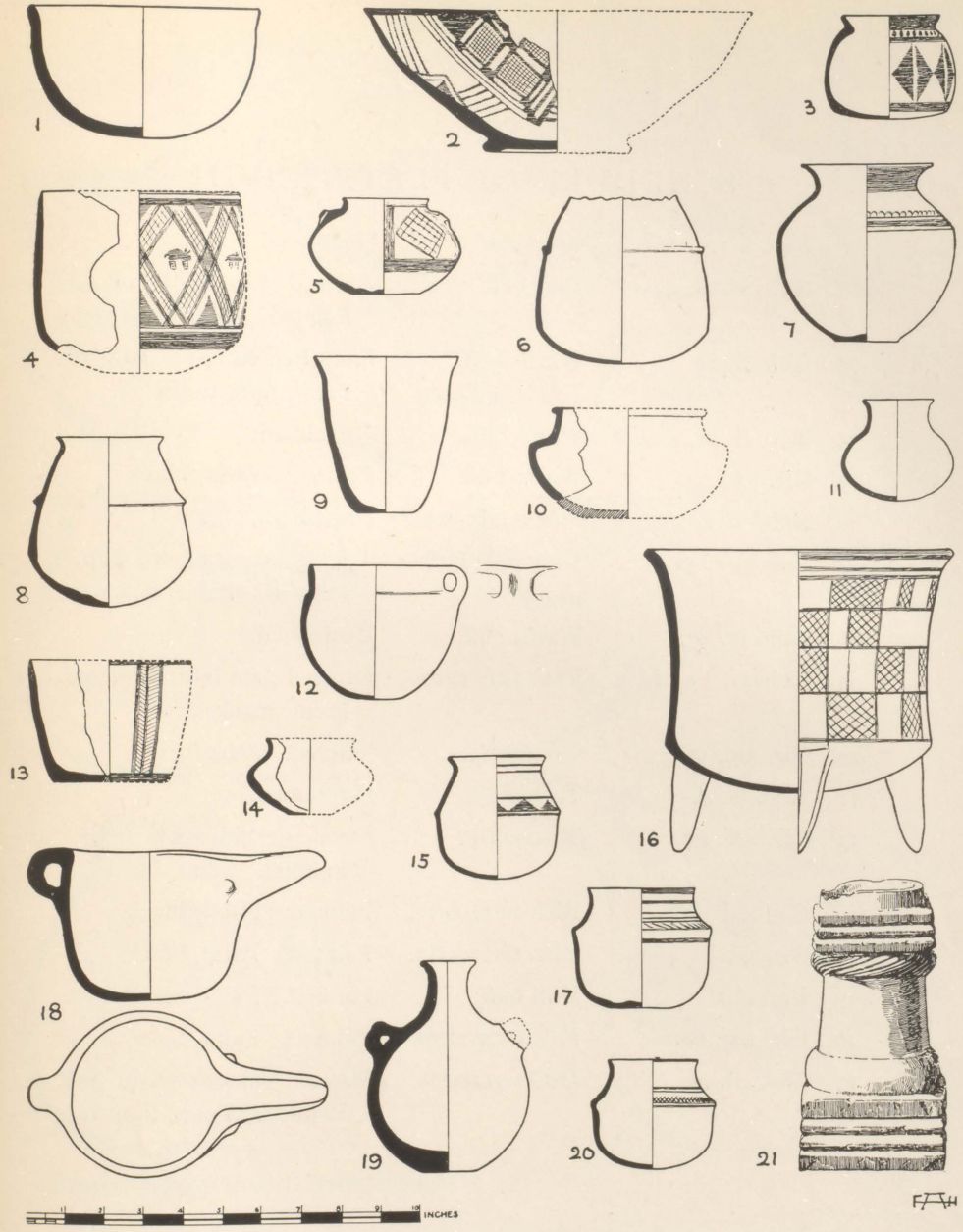


Scale $\frac{1}{4}$

POTTERY AND MISCELLANEOUS OBJECTS OF METAL AND STONE FROM HASANLŪ, SOLDUZ

SCHEDULE OF PLATE XXVII

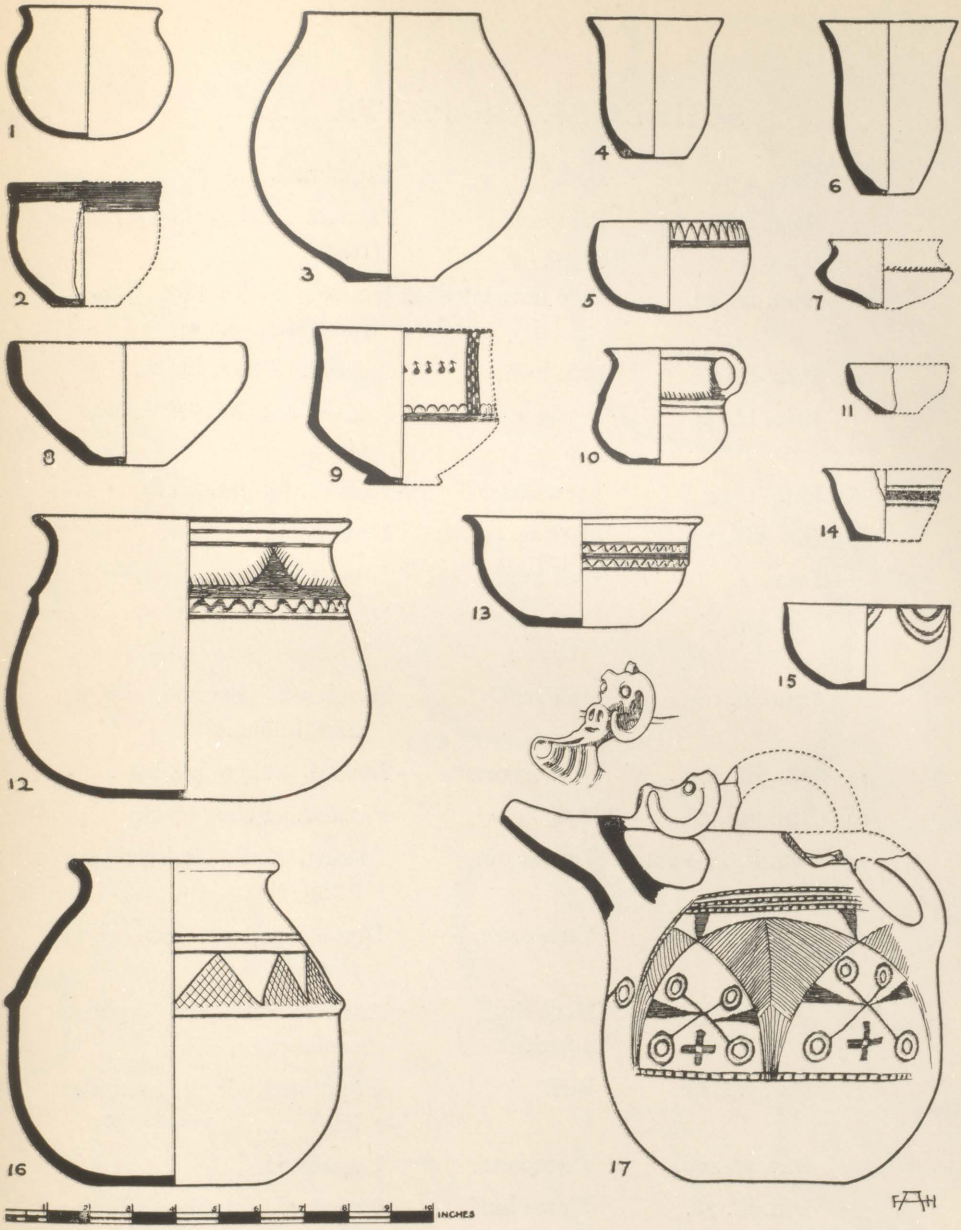
1	Gird. vii. d.	Warm buff.	Unpainted.
2	Has. xi. 1.	Buff.	Painted. Paint, black.
3	Mala. 51.	Buff.	Painted. Paint, liver red.
4	Mala. 45.	Buff.	Painted. Paint, black.
5	Lim. 5.	Buff.	Painted. Paint, black.
6	Koz. xvii. 113.	Buff.	Unpainted.
7	Koz. xvii. 111.	Terracotta.	Dressed with red. Painted. Paint, black.
8	Koz. xvii. 114.	Buff.	Unpainted.
9	Koz. ix. 50a.	Pale terracotta.	Unpainted.
10	Koz. x. 59.	Buff.	Painted. Paint, black; faded.
11	Koz. xvii. 112.	Terracotta.	Unpainted.
12	Kaz. xv. 25.	Buff.	Unpainted.
13	Koz. x. 58.	Buff.	Painted. Paint, brown-black.
14	Koz. 119.	Terracotta.	Dressed with rich red. Painted. Paint, black; traces only.
15	Sabz. R. 4.	Warm buff.	Painted. Paint, purple-black; faded.
16	Sabz. R. 7.	Warm buff.	Painted. Paint, brown-black; faded.
17	Sabz. R. 5.	Warm buff.	Painted. Paint, very faint.
18	Kaz. ix. 16.	Warm buff.	Unpainted.
19	Kaz. xi. 18.	Terracotta.	Unpainted.
20	Sabz. R. 6.	Buff.	Painted. Paint, black; faded.
21	Shami v. 7. 34.	Marble.	Miniature altar.



SHAPES OF POTTERY VESSELS FROM SITES OF ARDAKĀN, SAIMAREH, RŪMISHKĀN, HULAILĀN; ALSO OF STONE ALTAR, SHAMĪ (21).

SCHEDULE OF PLATE XXVIII

1	Kaz. i. 1.	Grey-buff.	Unpainted
2	Koh. vi-vii. a.	Dull buff.	Dressed with light buff. Painted. Paint, dull red.
3	Koh. ii. 14.	Warm buff.	Ivory-like surface. Painted. Paint, faint traces.
4	Koh. ii. 15.	Warm buff.	Unpainted.
5	Gir. 53.	Warm buff.	Painted. Paint, black.
6	Koh. iii. f.	Pale terracotta.	Unpainted.
7	Koh ix-x. 51.	Very pale buff.	Traces of terracotta slip. Painted. Paint, dull red.
8	Koh. ix. 47.	Warm buff.	Unpainted.
9	Koh. iv. 17 + iv. c.	Very pale grey.	Dressed pale buff. Painted. Paint, black.
10	Gir. xxi. 71 g.	Terracotta.	Painted. Paint, black.
11	Koh. iii. d.	Terracotta.	Unpainted.
12	Gir. xxi. 67.	Terracotta.	Smeared with rich red. Painted. Paint, black
13	Gir. xxi. 63.	Rich terracotta.	Painted. Paint, black.
14	Gir. xxviii. 46	Rich terracotta.	Painted. Paint, black.
15	Bataki 1.	Dull buff.	Painted. Paint, black.
16	Gir. xxi. 68.	Pale terracotta.	Painted. Paint, faded.
17	Mau. ii. 20	Dull terracotta.	Dressed smooth warm buff. Painted. Paint, light red.

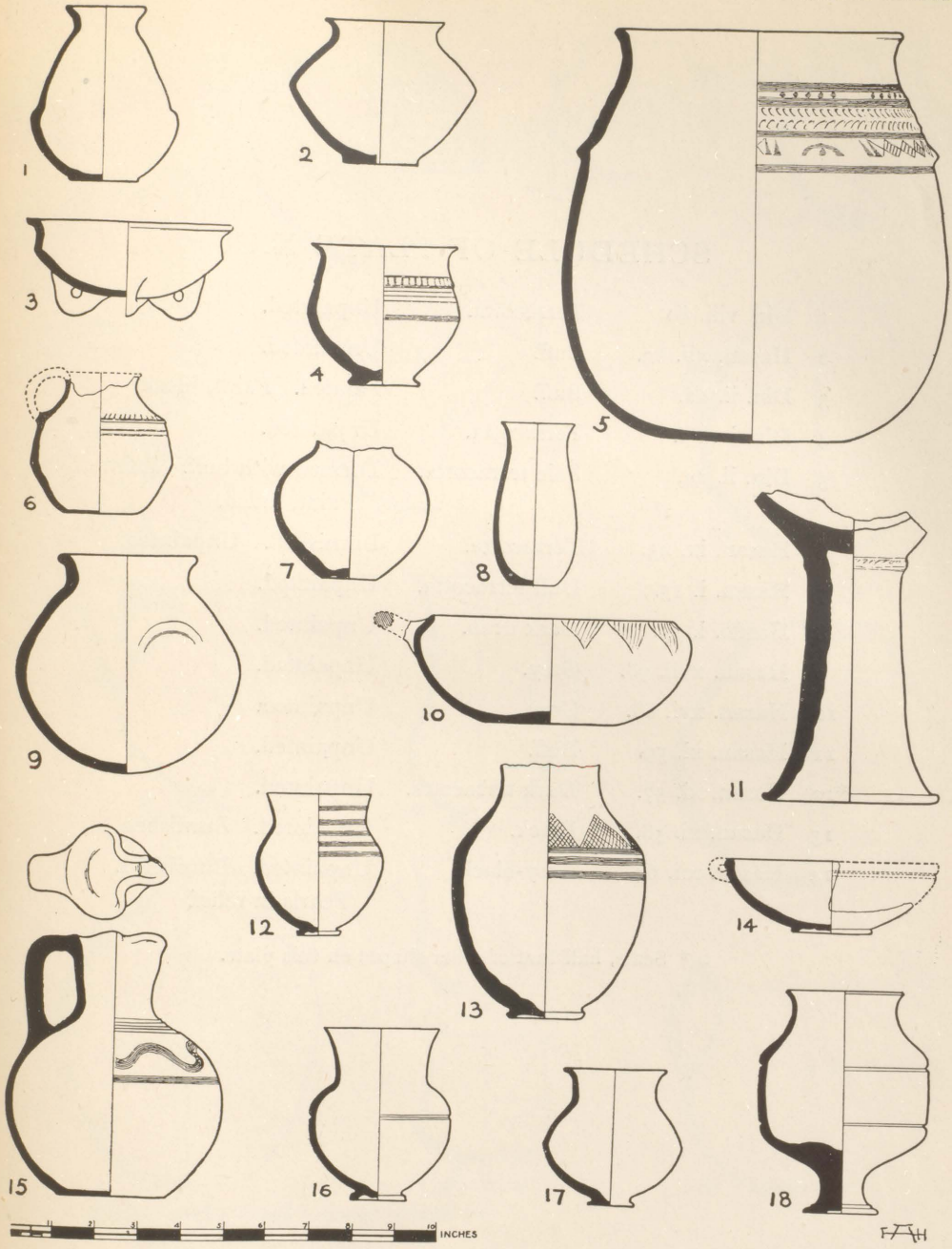


SHAPES OF POTTERY VESSELS FROM SITES OF HULAILĀN, KŌH-I-DASHT, ALISHTAR, DELFĀN

SCHEDULE OF PLATE XXIX

1	Mau. i. 9.	Buff.	Unpainted.
2	Mau. i. 8.	Pale buff.	Painted. Paint, black; traces.
3	Mau. iii. 29.	Pale terracotta.	Dressed ivory-buff. Unpainted.
4	Mau. i. 11.	Pale buff.	Painted. Paint, black.
5	Mau. iv. 34.	Terracotta.	Painted and incised. Paint, black.
6	Mau. i. 12.	Terracotta.	Painted. Paint, black.
7	Din. viii. 79.	Dark terracotta.	Unpainted.
8	Dum. 1.	Dull buff.	Unpainted.
9	Din. 94.	Dark grey-brown.	Unpainted.
10	Dum. 6.	Dull buff.	Burnished. Painted. Paint, dark brown.
11	Din. ii. 28.	Dull terracotta.	Incised cable moulding.
12	Din. viii. 76.	Buff.	Painted. Paint, black.
13	Din. ii. 16 + 20.	Terracotta.	Dressed buff. Painted. Paint, red.
14	Din. i. 11.	Terracotta.	Dressed smooth buff. Unpainted.
*15	Din. 95.	Dark dull brown.	Annular ribs and combed ornament.
16	Din. viii. 68.	Buff.	Unpainted. Incised annular line.
17	Din. iv. 40a.	Terracotta.	Unpainted.
18	Din. iii. 78.	Warm buff.	Unpainted. Incised annular lines.

* Scale, half that of other shapes on this plate.



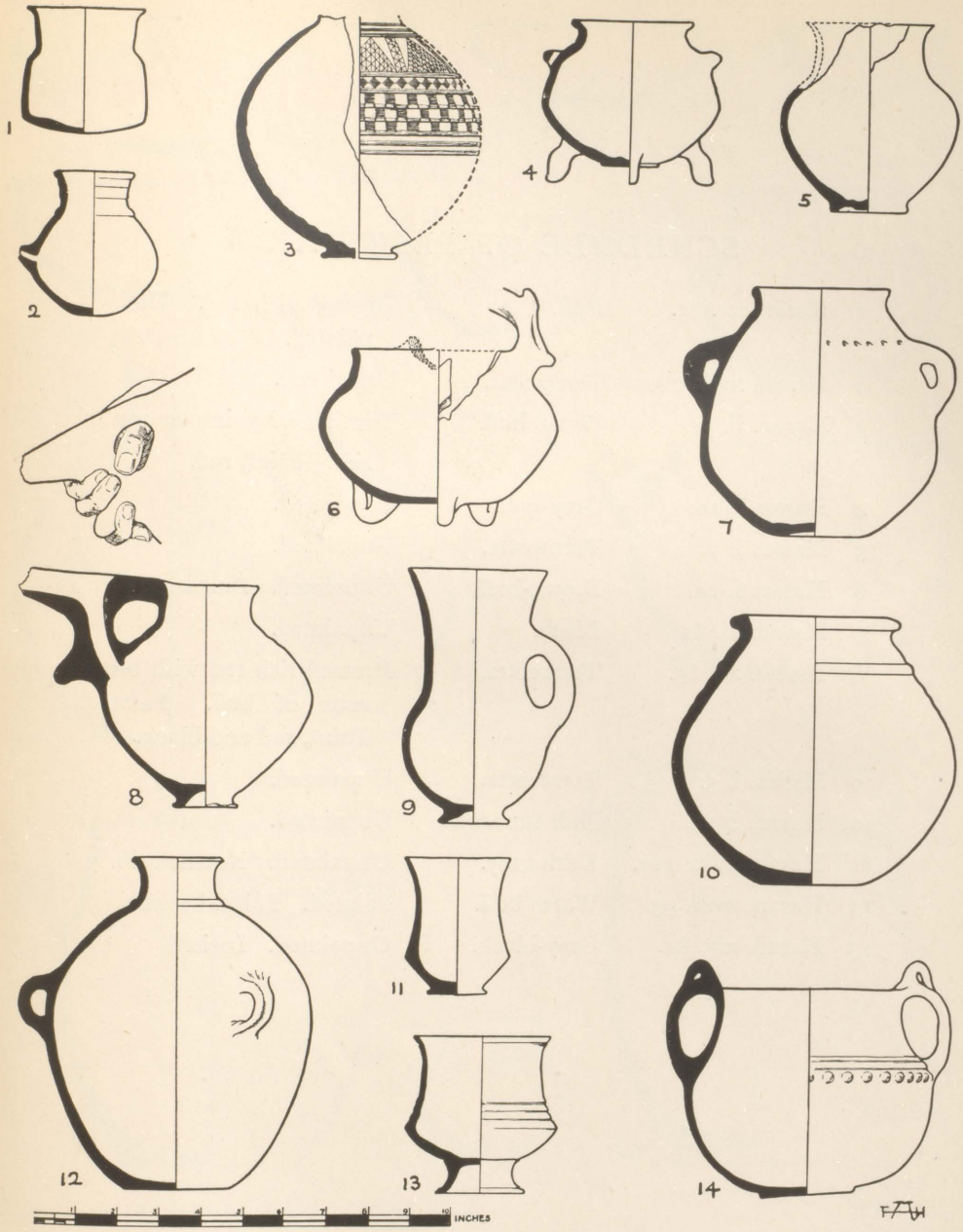
SHAPES OF POTTERY VESSELS FROM MAUYILBAK, DUM-AWĒZA AND DINKHĀ

No. 15 drawn to half scale

SCHEDULE OF PLATE XXX

1	Din. viii. 80.	Terracotta.	Unpainted.
2	Hasan. xii. 63.	Buff.	Unpainted.
3	Din. ii. 22.	Buff.	Painted. Paint, black.
4	Din. iv. 43.	Terracotta.	Unpainted.
5	Din. ii. 24.	Pale terracotta.	Dressed with buff. Painted. Paint, faded.
6	Hasan. ix. 43.	Terracotta.	Burnished. Unpainted.
7	Hasan. i. 15.	Dull terracotta.	Unpainted.
8	Hasan. i. 13.	Dark drab.	Unpainted.
9	Hasan. xvii. 98.	Grey.	Unpainted.
10	Hasan. xvi. 88.	Grey.	Unpainted.
11	Hasan. xi. 59.	Buff.	Unpainted.
*12	Hasan. xi. 57.	Dark terracotta.	Unpainted.
13	Hasan. xi. 58.	Black.	Unpainted. Burnished.
14	Hasan. xii. 64.	Grey-black.	Unpainted. Burnished. Pearls in relief.

* Scale, half that of other shapes on this plate.

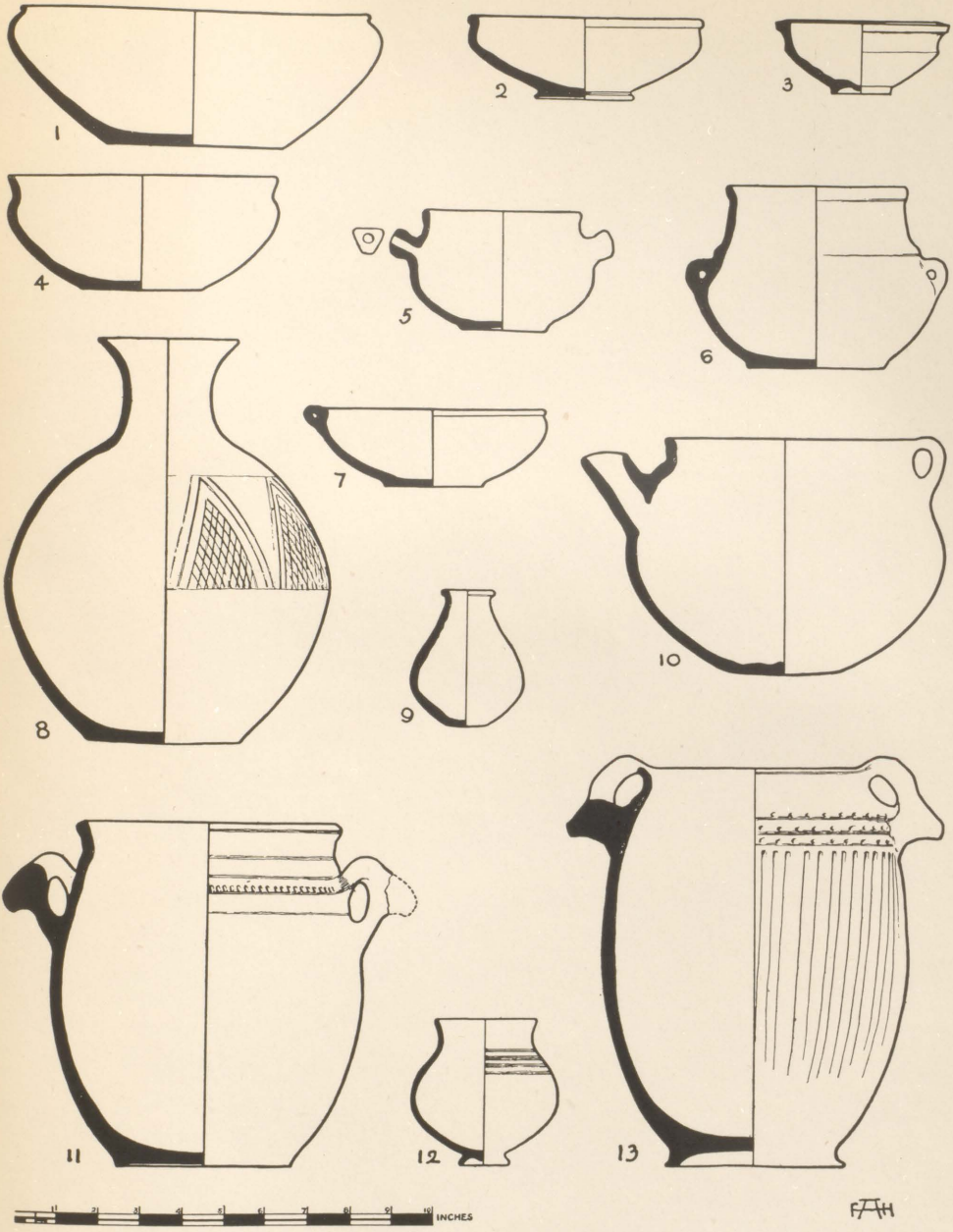


SHAPES OF POTTERY VESSELS FROM DINKHĀ AND HASANLŪ

No. 12 drawn to half scale

SCHEDULE OF PLATE XXXI

1	Hasan. xv. 83.	Buff.	Dressed rich red. Unpainted.
2	Hasan. xviii. 103.	Terracotta.	Unpainted.
3	Hasan. ii. 22.	Warm buff.	Touches of paint on top of rim. Paint, red.
4	Hasan. i. 10.	Grey-buff.	Unpainted.
5	Hasan. i. 7.	Terracotta.	Unpainted.
6	Hasan. i. 14.	Brown-buff.	Unpainted. Burnished.
7	Hasan. xi. 61	Black.	Unpainted.
8	Hasan. xv. 85.	Terracotta.	Dressed rich red with broad zone of buff. Painted. Paint, red and black.
9	Hasan. i. 5.	Terracotta.	Unpainted.
10	Hasan. i. 12.	Dull terracotta.	Unpainted.
11	Hasan. xviii. 107.	Dark grey.	Unpainted. Notched rib.
12	Hasan. xviii. 93.	Warm buff.	Painted. Paint, brown.
13	Hasan. xiv. 81.	Grey-black.	Unpainted. Incised.



SHAPES OF POTTERY VESSELS FROM HASANLŪ

DATE DUE

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Author Stein, Sir Aurel.

Title Old routes of Western Iran.

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